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The Cape Cod House: an Introductory Study

ERNEST ALLEN CONNALLY University of Illinois

THAT compact story-and-a-half house which we commonly know as the Cape Cod cottage (fig. 1) is one of the best known and most frequently imitated forms in the repertory of traditional American architecture. Yet, despite its wide appeal, both professional and popular, it has been generally neglected in serious historical study.[1] It is the purpose here to make available the results of a recent survey,[2] with the hope of encouraging further knowledge of this important type of American folk-building.

The term 'Cape Cod house' has been in use now for about a century and a half. The phrase is first recorded by a president of Yale College, Timothy Dwight (1752–1817), who in 1800 visited the Cape, where he found the houses so specialized in character and so closely adhering to a pattern that they specified to a 'class' and could 'be called, with propriety, Cape Cod houses.'[3] Thus by the end of the eighteenth century the Cape Cod house was a type, fully mature and identifiable. It is numerous today in southern Massachusetts from Plymouth all the way around to the tip of Cape Cod (fig. 2); and the basic eighteenth-century form, in its minor variations, can be seen persisting through the first half of the nineteenth century, still recognizable in the formal garb of Greek Revival. It is the only kind of old dwelling on the Lower Cape—that thin forearm from the elbow out, where old ways lasted late and pure—and in 1800 Dwight observed that its characteristics were particular to 'the great body of houses from Yarmouth to Race Point.'[4] Here then let us concentrate: the Lower Cape, in its century of traditional building dating approximately 1750–1850.

Fig. 1. Gormley House, Herring Pond Road, Wellfleet, ca. 1830 (photo: Cervin Robinson for HABS). A typical Cape Cod house, characteristically a story and a half with gables, central chimney, shingled sides, exterior housing for cellar stairs, 9/6 light sashes. This is one of the few examples on the Lower Cape with a (slightly visible) bowed roof. Now owned by Charles Gormley.

1. Hugh Morrison, *Early American Architecture* (New York: Oxford University Press, 1952), pp. 67–68, touches the subject briefly. 'The Cape Cod Cottage', Part I, *Architectural Forum* (Feb. 1949), pp. 89–94, a commendable attempt, will not be found entirely satisfactory by the architectural historian; Part II (March 1949), pp. 101–106, deals with modern versions. The two books on the subject are exclusively pictorial: Alfred Easton Poor, *Colonial Architecture of Cape Cod, Nantucket and Martha's Vineyard* (New York: William Helburn Co., 1932) is comprehensive, containing some measured drawings; Samuel Chamberlain, *Cape Cod in the Sun* (New York: Hastings House, 1937) does not identify the buildings.

2. A preliminary survey was made in July-August 1959 for HABS under the auspices of the National Park Service's 'Mission 66' program and in connection with the proposal for a national park on Cape Cod. In making the study, I am indebted to Abbott Lowell Cummings, Society for the Preservation of New England Antiquities, for valuable suggestions and information. Hon. Silas S. Clark of Wellfleet assisted me many times in locating buildings and identifying sites. He generously allowed the use of certified copies of public records cited below. Miss Elizabeth Freeman of Wellfleet showed me the way to remote houses and helped identify others. Mrs. Ruth Dyer of Truro shared her abundant knowledge of local history and genealogy. Miss Dorothea Setzer of Dennis kindly lent me some material. To them, and to the others who permitted me to come into their houses, I here express my gratitude.

3. Timothy Dwight, *Travels in New England and New York*, 4 vols. (New Haven, 1821), III, 97. No earlier use of the term is known. In 1797 Dwight began a systematic series of travels during his annual summer vacations, recording his observations as letters to an imaginary English gentleman. His complete descriptions provide a wealth of architectural and topographical information.

Fig. 2. Sketch map of Cape Cod, Massachusetts (author).

'The Cape begins at the canal', you will be told today. But this is a modern definition, for the canal, although proposed before the Revolution, was not constructed until shortly before the first World War. The name of Cape Cod, however, has been in use since its discovery in 1602. Originally applied in a strict geographic sense only to the head of land (between Provincetown and Race Point), the name was gradually expanded to include all the peninsula up to the bend, finally all up to the isthmus—the Cape as we know it today. This development no doubt partially accounts for the sense of separateness still obtaining on the Lower Cape, which is strictly considered to begin below Brewster, hence comprising Orleans, Eastham, Wellfleet, Truro, and Provincetown. All of the Cape was originally a part of the Plymouth colony, now all in Barnstable County. Permanent settlement began at Sandwich (ca. 1637) and was early confined chiefly to the bay side, where are the architecturally rich towns of Sandwich, Barnstable, Yarmouth, Dennis, and Brewster. The Lower Cape settlements generally date later, growing out of Eastham (incorporated in 1651, although no seventeenth-century buildings survive). Orleans was set off as a parish in 1718, but not incorporated until 1797. A north precinct called Billingsgate, on the bay side, was created in 1723 and organized as Wellfleet in 1763. Meanwhile the scattered settlement of Truro had been incorporated in 1709, and 'The Province Town' was made a precinct of Truro in 1714 and incorporated in 1727.[5] The old-timers were almost pure English stock, Congregationalist or Methodist. Some Portuguese came early in the nineteenth century. The Cape-Codder was a fisherman or farmer—mariner or yeoman, as the deeds say—who dwelt in 'thrifty though comfortable circumstances,' according to Dwight.

The Lower Cape towns, growing up slowly in the late eighteenth century, flourished in the first half of the nineteenth.[6] The fisheries and salt-works were most numerous in 1837 and high populations of about 2500 were achieved in 1850. Afterwards declining rapidly, the towns had sunk to half or less by 1880, excepting Provincetown, which was then beginning to draw some summer visitors. During this flourishing period the Lower Cape was relatively isolated, the principal outside communication being by sea, although service was irregular and infrequent. Internal communication was primitive. Although the King's Highway had got as far out as Wellfleet by the early date 1717, it was described in 1800 as 'a mere bed of deep sand',[7] and travelers confirm that character until the first World War, when some paving was introduced. And so we read that in 1829 there was only one horse in Provincetown, and until 1846 daily stages went out only as far as Orleans, whence a wide-tired wagon proceeded periodically to Provincetown. The Lower Cape was opened up only by the railroad. The Old Colony line, reaching Sandwich in 1848, did not attain Orleans until 1865, nor Provincetown until 1873. These late dates coincide with the decline of the towns and the first signs of summer tourism,[8] marking the transition to the modern epoch. The towns flourish once again, but now primarily to serve the 'summer people', who occupy most of the old houses, some of which are maintained merely for rental. It is rare now to find an authentic Cape-Codder dwelling under an ancestral roof.

In the peak year 1850 we can estimate there were almost 2000 dwellings on the Lower Cape. Near half of them

4. Dwight, *Travels*, III, 97.

5. Franklin W. Cook, *Historical Data Relating to Counties, Cities and Towns in Massachusetts* (Commonwealth of Massachusetts, 1948), *passim*. See also *Eastham, Massachusetts, 1651–1951* (Eastham Tercentenary Committee, 1951), pp. 18–19. Popular, though factual, town histories are given by Scott Corbett, *Cape Cod's Way* (New York: Thomas Y. Crowell, 1955).

6. Brief descriptions of the towns in 1762 are recorded by another Yale president, Ezra Stiles, *Extracts from the Itineraries and other Miscellanies of Ezra Stiles . . .*, Franklin Bowditch Dexter (ed.) (New Haven: Yale University Press, 1916), pp. 162–168. In 1762 Provincetown had 40 English families, Truro 180. In the 1790 census Provincetown had a population of 434, Truro 1192, Wellfleet 1113. By 1810 Provincetown had reached 936. The flourish and decline are detailed by Shebnah Rich, *Truro—Cape Cod, or Land Marks and Sea Marks* (Boston, 1883), pp. 449–462.

7. Dwight, *Travels*, III, 88.

8. *Atlantic Coast Guide, a Companion for the Tourist* (Boston and New York, 1873), pp. 95–108, on Cape Cod.

Fig. 3. (left) Peek House, Medfield, late seventeenth century (from Barber, *History and Antiquities of New England . . .*). (right) House which formerly stood on the farm of Governor Thomas Prence in Eastham (from Barber, *History and Antiquities of New England . . .*). This woodcut, before 1839, is one of the earliest graphic representations of a traditional house on the Lower Cape.

must still be there. They can be found scattered along the loose network of roads forming the town centers, dotted on the barren heaths overlooking the bay, and, with more difficulty, out in the sand, obscured by stunted forests of pine and oak, or buried in the deep hollows running at right angles to the coast. In its characteristic setting (fig. 4), the house is nestled under the lee of a hill covered by shrubby trees. Now as then, it faces south, as all the early historians agree, 'without regard to the street or road.'[9] In the early nineteenth century a typical establishment consisted of the house, a small but neat barn nearby, with an orchard of apples or pears and a small garden, all enclosed by a post-and-rail fence. The orchard and house were commonly defended from the sea winds by a barrier of cherry trees or locusts.[10] The complete character of a prosperous farm of the late eighteenth century is indicated by the inventory (1779) of the estate of John Rich,[11]

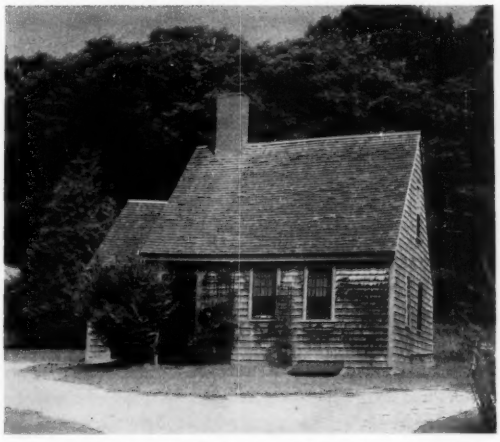

Fig. 4. Rowell House, Gull Pond Road, Wellfleet, mid?-eighteenth century (photo: Cervin Robinson for HABS). An archaic survival in typical traditional setting. Original owner unknown; now owned by Miss Clara Rowell.

whose house still stands on Fisher Road, Truro. His farm property included one dwelling house, one barn, half a salt-pit, an old shop, an old corn house, an orchard with a garden therein containing about one acre, a field taking in a small island (twenty acres in the whole), a neck of land north and west of the house including a cove of meadow from the salt-pit to the beach (nine acres), a field south of the barn (five and a half acres), and other small parcels of land, mostly meadow or woods, not all of it contiguous, ranging in size from three-quarters of an acre to twelve acres. The town centers consisted of more compact rural settings, each being an independent unit enclosed by a

9. Frederick Freeman, *The History of Cape Cod. Annals of the Thirteen Towns of Barnstable County*, 2 vols. (Boston, 1869), I, 187. *The History* (first pub. 1858) and the *Annals* (first pub. 1862) constitute a basic work, a source for most of the later historians.

10. Dwight, *Travels*, III, 79, 89, and Rich, *Truro*, pp. 347–349. Also Henry David Thoreau, *Cape Cod*, 2 vols. (Boston and New York: Houghton Mifflin, 1896), II, 2, 7. Thoreau made short tours of the Cape in 1849, 1850, 1855. His essays, originally published in *Putnam's Magazine* and the *Atlantic Monthly*, first appeared as a book in 1864. His descriptions make a comparison with the earlier ones of Dwight, and the two together form our most instructive travel accounts. The Cape Cod fence is discussed in *Old-Time New England*, XIV, 21 ff.

11. Barnstable County Probate Records, II, 138–141. The probate records largely survived the courthouse fire of 1827 and are doubtless a rich source for further study (Barnstable is the county seat). The Rich House is now owned by Miss Grace Deschamps.

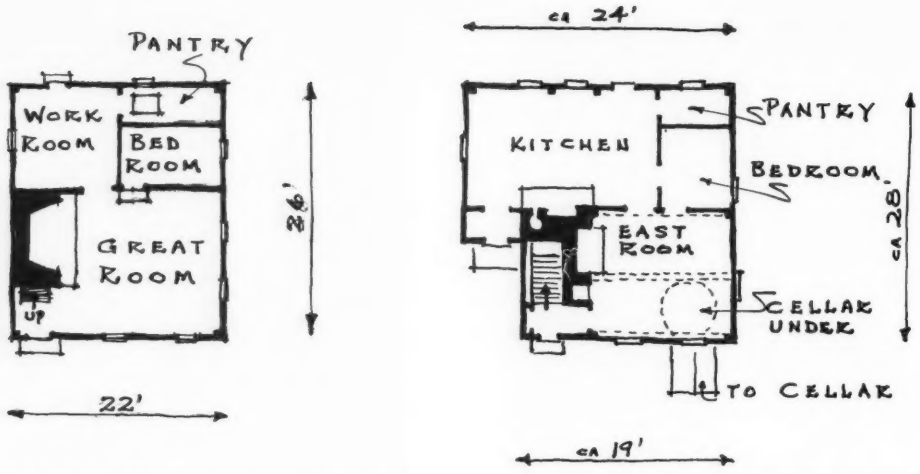

Fig. 5. (left) Sketch plan, Hallett House, Yarmouth, seventeenth century, reconstructed from Otis, *Genealogical Notes* (author). (right) Sketch plan, Rowell House, Gull Pond Road, Wellfleet (author). The basic 'house', which could be 'doubled'.

fence and containing the house, a small garden patch, orchard, and a bit of greensward, with a plank walk leading from the sandy road to the front door.[12] The exception was Provincetown, where the front yards were merely 'portions of the beach fenced in', and the fences were tight board walls, often set as close as a foot to the houses, to keep off the drifting sand.[13]

The old houses you will find on the Lower Cape are practically all identifiable as traditional Cape Cod cottages. There is no instance of a saltbox below Brewster; and while there are some Georgian gambrels and Federalist hipped-roofs on the upper Cape, where by the time of the Revolution Squire Edmund Bacon could boast a mansion of twenty rooms in Barnstable,[14] nothing of the sort was possible on the Lower Cape. Here the inhabitants restricted themselves to a single type, modifying it and enlarging it as their needs required and circumstances permitted. There are several standard variations of the type, depending on size as readily expressed in the south elevation (fig. 8), ranging from a house one room wide to a house two rooms wide. The latter (figs. 7, 13) is the largest kind, the fully mature type. Numerous today, such houses were described by Dwight in 1800:

> These have one story, and four rooms on the lower floor; and are covered on the sides, as well as the roofs, with pine shingles, eighteen inches in length. The chimney is in the middle, immediately behind the front door: and on each side of the door are two windows. The roof is straight. Under it are two chambers; and there are two larger, and two smaller, windows in the gable end.[15]

Dwight describes what Truro's historian Shebnah Rich (1824–1907) defines as the 'old-fashioned double-house', explaining: '. . . the rule was one low story . . . with two liberal-sized front rooms, an immense kitchen, with two bedrooms and a buttery, or pantry, on the lower floor, and a "square-chamber" upstairs.' And since the houses all faced south, 'The two front rooms were known as the "east room," where the family lived with the sunshine . . . and the west room, known as the "great room," which was for guests and special occasions. The spacious kitchens . . . were open to all work in summer, and used for storage and common work in winter.'[16] Accordingly then a 'double-house' (fig. 7) is a symmetrical block with a central doorway flanked by paired windows. The entry is shallow, with steep stairs (only four or five feet in the run) ascending between fireplaces in the east room and west room. The front chimneys join the great central stack of the kitchen fireplace under the level of the garret floor (ceilings are commonly about seven feet high), and the kitchen and its fireplace are centered in the rear portion of the house. The kitchen is flanked by two small bedrooms, one of which is usually reduced to allow a pantry. The small bedroom on the right is traditionally called the 'borning room', because of its constant use for childbirth and nursing, being near the conveniences of the hearth in kitchen or east room. Now if this fully mature plan constitutes a 'double-house', then a plan only one room wide (fig. 5), with the

12. J. Milton Mackie, *From Cape Cod to Dixie* (1864), extract in Edith Shay and Frank Shay, *Sand in their Shoes: a Cape Cod Reader* (Boston: Houghton Mifflin, 1951), p. 152. Mackie was on the Cape before the Civil War.

13. Thoreau, *Cape Cod*, II, 31–33, 97, 130.

14. Henry C. Kittredge, *Cape Cod; its People and their History* (Boston and New York: Houghton Mifflin, 1930), p. 79.

15. Dwight, *Travels*, III, 79.

16. Rich, *Truro*, pp. 340–341.

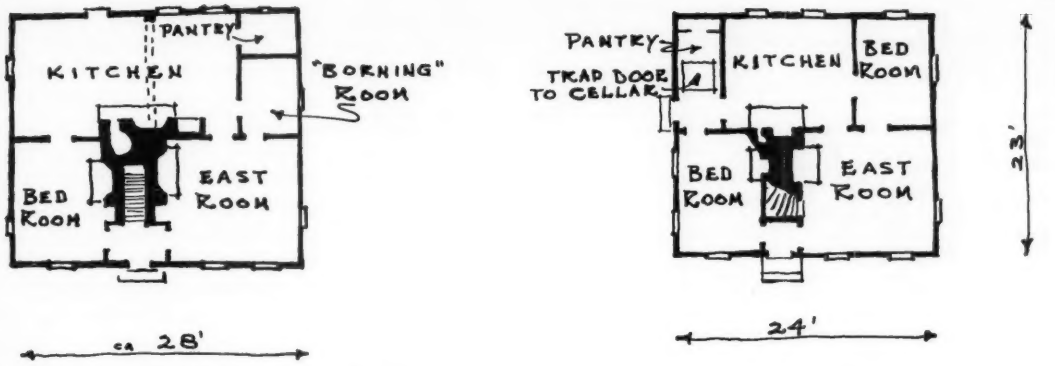

Fig. 6. (left) Sketch plan, partly reconstructed, Baker-Biddle House, Bound Brook Island, Wellfleet, early nineteenth century (author). A characteristic house-and-a-half, with one large room to the right of the entrance and a smaller room to the left, now enlarged. Probably built by David Baker, father of Lorenzo Dow Baker (1840–1908); now the summer residence of the Hon. Francis Biddle. (right) Sketch plan, partly reconstructed, Cole-Wheeler House, Prince Valley Road, South Truro, before 1850 (author). The smallest observed example of a house-and-a-half, now enlarged.

doorway to one side (usually the west) and paired windows on its right, is by inference only a 'house'. Logically then a plan of intermediate magnitude makes a 'house-and-a-half' (fig. 6), which characteristically has on the left a smaller room, with only one front window, and only one bedroom flanking the kitchen. Today these variations are often, and confusingly, referred to as half-house, three-quarter-house, and house. However, since there is no historical foundation for the modern descriptive terms, we must, I think, accept the nomenclature stated and implied by Rich. Thus we have the standard variations of the type, as well as an evolutionary sequence: house, house-and-a-half, double-house. A house will measure about twenty feet across the front, a house-and-a-half about twenty-eight feet, and a double-house about thirty-four, or a maximum of about forty feet in the largest examples.

Other variations concern details. Dwight found them too slight to mention, and you will still hear, 'the houses are all alike.' The common characteristics are, of course, abundant and details vary only in minor degree. Interior details consist of chair-rails and a few mouldings; fireplace walls are paneled in simplified forms suggesting a distant kinship to metropolitan styles. Each fireplace is characteristically adjoined by a shallow cupboard with a sash door. Today the interiors are painted, in unverifiable colors, although the Cape historians tell us that whitewash was standard in the eighteenth century and that the floors were never painted, rather scrubbed with white sand, which in well-disciplined families was kept in neat puddles from one week to the next.[17] The exteriors uniformly exhibit simple box cornices, 9/6 light sashes, and transoms. The most conspicuous variation is in the arrangement of gable windows (fig. 9), appearing to Thoreau as if each occupant 'had punched a hole where his necessities required it, and according to his size and stature, without regard to outside effect.'[18] He noticed some triangular windows low under the eaves, and a few still exist. Exterior walls are most frequently shingled, as Dwight observed in 1800, although often you will see the south front, and sometimes the north, finished with clapboards (apparently original). Today clapboards and trim are usually painted, while the shingles are not. As to earlier appearances, the travel accounts are mildly helpful.[19] For example, Dwight (in 1800) observes that the houses of Truro 'are painted in fewer instances than in Yarmouth and some other places', while those of Wellfleet exhibit 'more appearances of attention and taste.' In the mid-nineteenth century Thoreau refers to 'the old-fashioned and unpainted houses on the Cape', although in Dennis he noted that the roofs were often painted red, while the rest was unpainted. As to other variations, the exceptional situation of Provincetown must be noted. In 1800 the houses were built on piles, to prevent the driving sand from piling against the walls. Fifty years later Thoreau found only a few remaining, and they were mostly boarded up, while the newer houses were much like those elsewhere.

The plan of the Cape Cod house descends almost pure from the seventeenth century, doubtless originating in the primitive one-room-and-loft cottages of Plymouth.[20] A

17. Freeman, *The History*, I, 186–187. Rich, *Truro*, p. 343. Kittredge, *Cape Cod*, p. 77.

18. Thoreau, *Cape Cod*, I, 105.

19. Dwight, *Travels*, III, 90, 95, 100. Thoreau, *Cape Cod*, I, 32; II, 130.

20. See Charles R. Strickland, 'The First Permanent Dwellings at Plimoth Plantation', *Old-Time New England*, XL, 3 (Jan. 1950), 163–169.

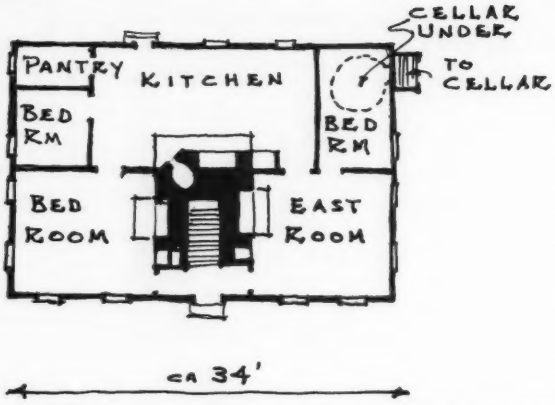

Fig. 7. Sketch plan, Higgins-Avery House, between Gull Pond and Higgins Pond, Wellfleet, ca. 1830 (author). A characteristic double-house, now slightly modified. Probably built by Josiah Higgins; now owned by Mrs. William H. Avery.

late seventeenth-century specimen of this plan-type is the Waite-Potter House at South Westport, Massachusetts, measuring sixteen by twenty-four feet on the ground and consisting of one large room—the 'hall' or 'fire-room'—with a large fireplace taking up most of the west wall, leaving space for a small entry with a ladder giving to the loft.[21] As we know, this kind of plan was often expanded by the addition of rear rooms under a lean-to, and we can reconstruct the plan of such a house on Cape Cod (fig. 5) from the analysis of Amos Otis (1801–1875), discerning historian of Barnstable.[22] One Andrew Hallett, Jr., moved in 1642 from Sandwich to Yarmouth, where he built a house before his death in 1684. The house appears to have been a story and a half with lean-to, all together about twenty-two by twenty-six feet in plan; with a 'great room' about seventeen feet square in the southeast, a fireplace eight feet wide on the west wall (since Otis tells us that the houses always faced south), a kitchen or workroom in the northwest, and in the northeast a small pantry with trap door to the cellar. Crowded between pantry and great room was a bedroom, just large enough for a bed, with the floor raised about two feet to give more headroom in the cellar. This is essentially the same plan we find a hundred dred years later in the Rowell House, Wellfleet (fig. 5), one of the most archaic examples on the Lower Cape. In basic form the houses would differ in the matter of the lean-to; however, we know that in the seventeenth century similar plans were embodied under straight gable roofs. A surviving relative of other seventeenth-century ancestors, then, is the Peek House at Medfield, Massachusetts (fig. 3), which is reputed to have been standing at the time of King Philip's War (1676) and was already in the early nineteenth century regarded as a curious relic by the historian John Warner Barber (1798–1885),[23] according to whom it is fourteen and a half by twenty-four feet in plan, containing an entry, one large room, and a pantry, and in the attic story, two chambers, and above them a narrow garret. Barber measured it ten feet from ground to eaves and twelve feet from eaves to ridge. This form can be seen carrying over into the early eighteenth century in a small house which formerly stood on the farm of Governor Thomas Prence in Eastham, and later in the Rowell House, Wellfleet (figs. 3, 4).

The sequence of house, house-and-a-half, double-house must be thought of as a general pattern of evolution rather than a chronological guide, for all varieties were built simultaneously. Indeed, the plan of the double-house had already been realized in Massachusetts by the dawn of the eighteenth century,[24] and in the isolation of the Lower Cape a 'house' of the most modest seventeenth-century dimensions was built as late as 1838, when one William Stevens, mariner, of Truro, engaged Benjamin Hinckley, carpenter, to build a house seventeen feet wide and twenty-two feet long, containing 'one square room', a buttery, a small kitchen or washroom, and two bedrooms (presumably one of them in the garret).[25] While the great majority of houses were built in characteristic form all at once, the house-and-a-half (fig. 1) being the most numerous, there are instances of enlargement. The plan of the Rowell House (fig. 5) shows with what ease it could be 'doubled', the position of chimney and stairs suggesting that it was built with that possibility in mind. We know that the Higgins House, Wellfleet, was doubled, probably before 1805; apparently also the Harding-Lloyd House, Truro, at an equally early date. Enlargements to double-houses usually took the form of ells (fig. 10). Additions of one kind or another were probably not uncommon in the early nineteenth century; for example, an English visitor in 1808 was put up for the night in Truro by Captain Obadiah Rich, whom he found with a young family and 'a house, of which the dimensions were increasing.'[26] But if a dwelling could be doubled it could also be divided, legally and physically. There are instances of property lines

21. Thomas T. Waterman, *The Dwellings of Colonial America* (Chapel Hill, N. C., 1950), p. 245. Also in HABS.

22. Amos Otis, *Genealogical Notes of Barnstable Families* (Barnstable, 1888), extract in Shay, *Sand*, pp. 44–56 (first pub. in *Barnstable Patriot*, 1861). Otis shows a good understanding of seventeenth-century construction, and does not subscribe to the log-cabin myth.

23. John Warner Barber, *The History and Antiquities of New England, New York, New Jersey and Pennsylvania* (Hartford, 1842), p. 528. A photograph of the house is in Waterman, *Dwellings*, p. 244, from HABS.

24. See Morrison, *Early American*, pp. 20–22.

25. Deed Book 21, 158.

26. Edward Augustus Kendall, *Travels through the Northern Parts of the United States in the Years 1807 and 1808* (New York, 1809), p. 147.

Fig. 8. Standard variations of the Cape Cod house as revealed in the south elevation: (l. to r.) house, house-and-a-half, double-house (author).

Fig. 9. Standard variations of the gable observed on the Lower Cape (author). The two at the left are characteristic of the house and house-and-a-half; the two at the right of the double-house.

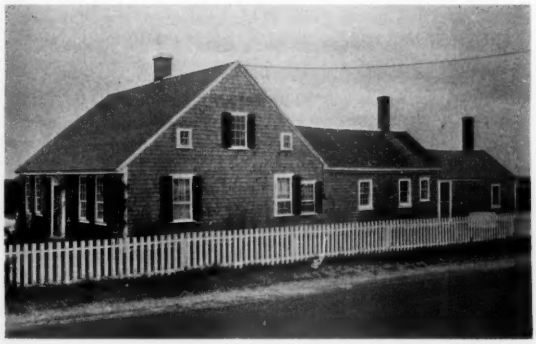

Fig. 10. Cook House, King's Highway, North Truro, late eighteenth century (photo: Cervin Robinson for HABS). Reputedly occupied by workmen during construction of the Cape Cod lighthouse (Highland Light) in 1797. A double-house successively enlarged with ells; now owned by Professor Roy J. Cook.

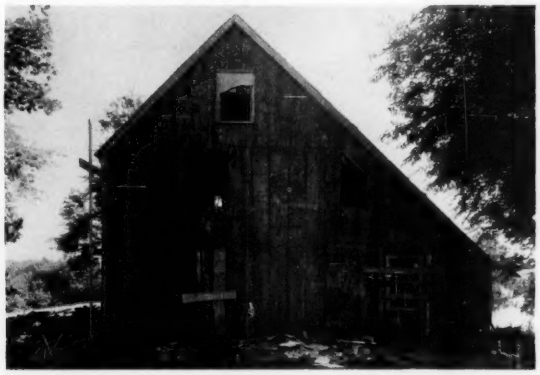

Fig. 11. Hoxie House, Sandwich, mid-seventeenth century, under restoration in 1959, revealing plank construction (photo: Cervin Robinson for HABS).

drawn right through the middle. In 1805 Thomas Holbrook and Solomon Higgins, both yeomen, conveyed to Thomas Atwood, mariner, 'All the Land that we now own in . . . Wellfleet on Bound Brook Island with all the wood on said land, and half the Dwellinghouse now standing on said Island where said Higgins now lives and dwells, . . .'[27] There are also verbal accounts of houses being 'flaked down', namely, sawn apart and moved, from one place to another; and Rich mentions the frequent 'removal' of houses in the 1870s.

Structurally, the Cape Cod house is characterized by 'plank construction',[28] a seventeenth-century practice probably introduced on the Cape by early settlers from Essex County, particularly from the vicinity of Lynn. It can be seen in the Cape's oldest building, the Hoxie House at Sandwich (fig. 11), and it persisted beyond the middle of the nineteenth century. Typically, the Cape Cod house has a box-like frame (fig. 12) consisting of

27. Re-recorded in Deed Book 2, 289 et seq. Courtesy of Mr. George K. Higgins.

28. More research is needed on this subject. A similar kind known as 'box construction' has persisted in the South, for the cheapest buildings, well into the twentieth century. Doubtless a common origin could be found in late Tudor building practice.

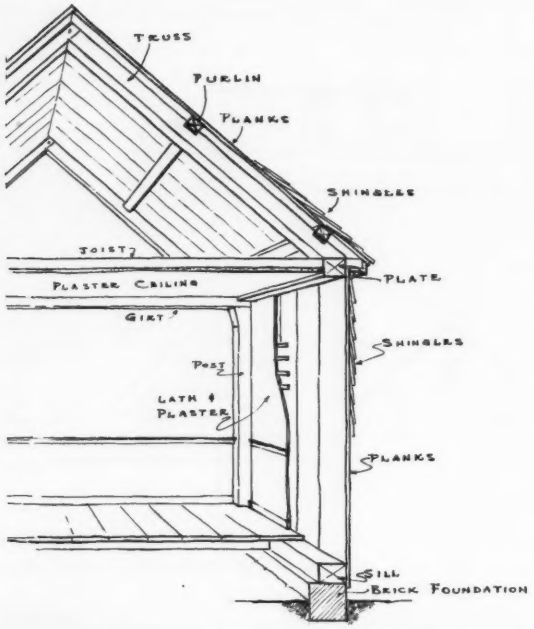

Fig. 12. Sketch of typical plank construction observed in the traditional houses of Lower Cape Cod (author).

hewn sills, corner posts, plates, and girts (no studs). Sawn planks twelve to eighteen inches wide are nailed vertically to the outside face of sill and plate, and shingles, or sometimes clapboards, are nailed directly to the planks; inside, riven lath and plaster are applied directly to the planks, making a wall about three inches thick. Window frames thus protrude on the exterior, visually announcing the character of wall construction. Posts, plates, and girts are exposed on the interior, also usually a 'summer' for intermediate support of the garret floor. The roof consists of a series of simple hewn trusses with purlins (no rafters or ridgepole). Solid planking is nailed at right angles to purlins and plate, and to this sheathing the shingles are nailed. This system was gradually replaced by conventional frame construction. About 1850 Thoreau notes, 'The modern houses are built of what is called "dimension timber", imported from Maine, all ready to be set up, so that commonly they do not touch it again with an axe.'[29] Timber for the older houses was also probably imported, the Lower Cape having been stripped of any tall forests before the end of the eighteenth century. Thoreau reports the same: '. . . they will tell you that large schooners were once built of timber which grew in Wellfleet. The old houses, also, are built of the timber of the Cape; but instead of the forests in the midst of which they originally stood, barren heaths . . . now stretch away on every side.'

29. Thoreau, *Cape Cod*, II, 4, this and the following.

Masonry construction on the Lower Cape is restricted to chimneys, cellars, and foundations:[30] all of brick (imported). Stones, brought in as ballast, may have been used in the earliest buildings; but as Thoreau reminds us, 'Stones are very rare on Cape Cod', and in his time 'vessels had been forbidden to take them from the beach for ballast.' He saw one instance of a house being underpinned with 'rocks', which had been collected with great pains over many years. Bricks, on the other hand, were in standard use by 1800 according to Dwight, who describes cellars exactly as you will find them today: small and circular, to prevent the sand from caving in the walls. Thoreau accurately adds that they 'are only from nine to twelve feet in diameter, and are said to be very cheap, since a tier of brick will suffice for a cellar of even larger dimensions. Of course, if you live in the sand, you will not require a large cellar to hold your roots.'

A few building contracts survive from the flourishing decades. The following may be regarded as fairly typical. It is an agreement between Andrew Cobb, mariner, and Thomas Paine II, housewright of Truro, in 1843, for the construction of a house-and-a-half (now disappeared) off Old County Road in South Truro.[31] The closest surviving approximation is the Cole-Wheeler House (fig. 6), which was built about the same time nearby on Prince Valley Road.[32] For $450.00 Paine bound himself, 'in good and workmanlike manner and according to the best of his art and skill', to:

> . . . build and set up and finish all below the chamber floor, one house or messuage of the dimensions and particular description following. Viz: Twenty-three feet square on the ground floor, ten feet posts, hemlock timber and boarding boards, the roof and front side to be shingled with pine shingles, the two ends and back side with cedar shingles, finish the lower part of the house into one front room, one kitchen, two bedrooms, one butry, front and end entry, two flights of stairs if needed and plain [sic] the boards for a chamber floor, the front room and kitchen to be ceiled up to the windows, glass closet door in the front room, iron latches for all the doors, seven by nine glass for all the windows, a common cellar under the house with a cellar house outside.

There is a stylistic development evident in the houses of the Lower Cape, although progressive differences are slight. The best indicator is the placement of windows in the south wall. In the oldest examples (fig. 4) the window frames come directly under the box cornice; the wall height is gradually raised, with the windows relatively lower; by the 1830s the wall is normally about ten feet

30. Thoreau, *Cape Cod*, II, 134–135. Dwight, *Travels*, III, 95.

31. Deed Book 33, 261. The carpenter may have been the Thomas Paine (1779–1860) who is buried, beside his wife Priscilla, in the Methodist Cemetery, Truro. No likelier candidate was available in the other cemeteries or in the *Vital Records of the Town of Truro, Massachusetts to the End of the Year 1849* (Boston, 1933).

32. This house was standing in 1850 when it was owned by Joseph Cole, who bought more property 'upland under and around where his dwelling house now stands'. Deed Book 48, 52.

Fig. 13. Harding-Lloyd House, North Pamet Road, Truro, ca. 1760 (photo: Cervin Robinson for HABS). An early specimen of the double-house, believed to be the oldest dwelling in Truro.

Fig. 14. Howes-Jorgenson House, Dennis, ca. 1767 (photo: Cervin Robinson for HABS). One of the largest and finest examples of the double-house, measuring forty feet across the front and faced with clapboards. An early addition at the rear, restoration and further enlargement (not shown) in 1936.

high, as in the Cobb-Paine contract and the Gormley House (fig. 1). This latter arrangement did not materially raise the ceiling height of the first story, rather it allowed more headroom upstairs. Fixing the stylistic development to a chronology is difficult, since the Barnstable County deed records were destroyed by fire in 1827 and private building records are scarce. Therefore, to date eighteenth-century examples we must rely on credible local antiquarians and genealogical records, and on making visual comparisons. Here are several cases, all double-houses. The Harding-Lloyd House (fig. 13) is believed to be the oldest house in Truro. According to an account in Rich it can be established that the house was standing in 1775, when it was occupied by Lot Harding II (1721–1802), who apparently built it and certainly reared his large family in it.[33] Harding married (Tamesin Cobb) in 1746, thus fixing construction between 1746 and 1775, say 1760 ± 15. The Harding-Lloyd House is quite similar to the Doane-Chase House on Nauset Road, Eastham, where a tablet in the yard announces that it was built by Sylvanus Doane and was the birthplace (in 1767) of Captain Obadiah Doane. The Rich-Musgrave House in Longnook Hollow, Truro, is our best dated example. Shebnah Rich, writing in 1878–1880, says that 'it was built a hundred years ago' by his grandfather Joshua Rich,[34] and the date 1778 was formerly painted under the west gable. More advanced than the preceding examples, it is stylistically related to the Howes-Jorgenson House in Dennis (fig. 14). The paneling and bolection mouldings on the fireplace walls of the west

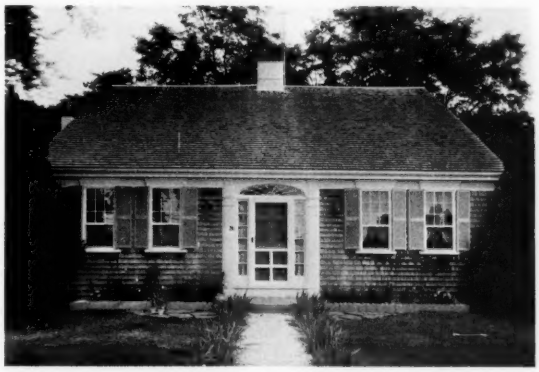

Fig. 15. Freeman-Puffer House, Bound Brook Island Road at route 6, Wellfleet, ca. 1840 (photo: Cervin Robinson for HABS). A traditional double-house revealing the influence of the Federal Style.

rooms are virtually identical. The house in Dennis was built by a prosperous farmer, Daniel Howes (1738–1781), who in 1766 married Sarah Collins. According to credible tradition, their son Daniel Howes, Jr., was born there in 1767, which is probably the year of completion.[35]

The eighteenth-century form, with a slight modification in proportion, carries on through the flourishing decades 1830–1850. Also in these years more significant and more visible stylistic changes appear, and we find houses in the Federal Style and in the Greek Revival—doubtless 'the

33. Rich, *Truro*, pp. 287–288. The Hardings are buried in Old North Cemetery, Truro. After the occupancy of Lot Harding III (1771–1840) the house passed through several hands and about 1920 to Mrs. Herbert Lloyd (d. 1959). It is now owned by her daughter, Mrs. Margaret Lloyd Aiken of New York.

34. Rich, *Truro*, p. 340. The house was moved by Irving Hale Rich (1853–1927) to a site farther west on Longnook Road and attached to an existing house-and-a-half; now the summer residence of Mr. and Mrs. Arthur Musgrave.

35. Joshua Crowell Howes, *Genealogy of the Howes Family in America, 1637–1892* (Yarmouth Port, Massachusetts, 1892), pp. 26, 42. Daniel Howes, Jr. (1767–1865) reportedly lived his entire life in this house which was occupied by his descendants (by marriage Jorgenson) until 1932. It is now owned by Miss Dorothea Setzer of New York and Dennis. An early photograph is in Poor, *Colonial Architecture*, pl. 2; interiors, pls. 107, 128.

modern and more pretending ones' mentioned by Thoreau.[36] Houses reflecting Federal influence are fairly numerous; they are uniformly built on one of the traditional plans, the differences residing in woodwork details. The cornice with dentils, for example, can be found on such unlikely specimens as the Gormley House, Wellfleet (fig. 1), and other characteristics can be seen here and there in increasing degree up to the sophisticated Freeman-Puffer House, Wellfleet (fig. 15).[37] Verbally dated about 1840, it is a double-house in plan with a shingled south front graced by dentilled cornice, semi-elliptical fan, and side lights. The emergence of the Greek Revival can be documented with some certainty. Its introduction appears largely due to Pérez Bangs (1763–1834), a Truro 'housewright' of Portuguese origin and Methodist persuasion, whose style of building was carried on by his son Pérez Bangs, Jr. (1793–1877), known as a 'carpenter'. The Greek Revival house which the elder Bangs built for himself still stands, though derelict, off Old County Road (above Fisher Road) in Truro. After the death of his widow, Thankful, the house was sold in 1846, when it was described as the 'Homestead of Pérez Bangs'.[38] This means that it was built before his death (1834) and that the Greek Revival was on the Lower Cape by that date: indeed the majority of houses surviving from the flourishing decades exhibit Greek taste in some degree. A good Greek translation of the Cape vernacular is the Higgins-Clark House, Wellfleet, traditionally dated 1837.[39] A double-house in plan, it is characterized externally by the heightened south front and the monumentalizing effect of pilasters and portal. It was apparently these formal qualities which, compared to the older houses, Thoreau found 'less in harmony with the scenery and less firmly planted.'[40] The Greek Revival houses are generally larger than the older ones, ells often included in the original construction. Plans began to deviate from the old compact arrangement. In late examples such as the Curran House, Wellfleet (fig. 16),[41] an ell-plan dominates and traditional features are evident mainly in the shingled sides and the arrangement of gable windows. Such provincial Greek pediments can be found as far back as the Bangs House, and in the town centers there are occasional two-storied houses,

Fig. 16. Curran House, on route 6 north of Wellfleet center, after 1858 (photo: Cervin Robinson for HABS). Characteristic of the innovations which appear with the Greek Revival.

now and then a rare one with columns. These are called 'captains' houses' and old-timers insist that they too are real 'Cape Cod houses'. Nonetheless, it has to be admitted that the Greek innovations initiate the dissolution of traditional forms.

The tradition disappears in the decades following the Civil War, when there was relatively little building activity on the Cape. The few buildings of this time are usually one- or two-storied mansards found in the town centers. Not only was the Cape subject to current standards of fashion, there was a direct French influence. The French cable landed at Eastham in 1879, bringing new families from France and Belgium. Engineers in the employ of the Compagnie Française du Télégraphe de Paris à New York are credited with the design of many of these late buildings, which apparently date from the eighties and nineties. This architectural development coincides with the passing of one epoch and the beginning of another—with the emigration of old families and the decline of the towns, with the arrival of the railroad and the first 'summer people'. While lamenting the passing of the old ways, the historian Rich notes hopefully, and accurately, '. . . a glance at the map . . . showing the geographical position, configuration and connection by land and water with Boston and New York, is better than any statement or argument, that Cape Cod is by nature wonderfully adapted for, and must become more and more, a summer resort.'[42]

36. Thoreau, *Cape Cod*, II, 105.

37. Believed to have been built by James Freeman, who married Susannah Wiley. In 1858 it was owned by Mrs. S. Freeman, according to a wall-map of Barnstable County (pub. 1858, based on Geological Survey of 1843–1848 with corrections). Now owned by Mrs. Mary D. Puffer of Washington, D. C.

38. Deed Book 38, 209. The Bangs graves are in Pine Grove Cemetery, South Truro.

39. Higgins on the wall-map of 1858; the earliest deed is dated 1864, when John S. Higgins conveyed. Now owned by Silas S. Clark.

40. Thoreau, *Cape Cod*, II, 105.

41. Not indicated on the wall-map of 1858, although very likely built soon afterwards. The *Barnstable County Atlas* of 1880 shows 'Mrs. B. S. Young'. Now owned by Miss Edith Curran.

42. Rich, *Truro*, p. 453. Anticipated by Thoreau, *Cape Cod*, II, 203.

White, Furness, McNally and The Capital National Bank of Salem, Oregon

LEE H. NELSON National Park Service

THE striking similarity between two unusual buildings in different parts of the country is usually a simple case of plagiarism, but when the copy, not the original, is claimed to have been designed by Stanford White, such incongruity surely provides adequate motivation for an architectural study.[1]

The specific instance referred to is the Capital National Bank of Salem, Oregon, built in 1892 (fig. 1). This charming little building is not an original work, but a copy of Frank Furness' National Bank of the Republic built in Philadelphia in 1884. That Furness' unusual design should inspire such a distant copy, is a fascinating episode of late nineteenth-century American architecture.[2]

A most interesting aspect of the Salem bank is the local tradition that credits the design to Stanford White, a novel belief that persists and is locally accepted as fact. Unfortunately, the false tradition is given credence by frequently appearing in print. The usually reliable American Guide Series for Oregon attributes the design to White.[3] Certainly the claim did not originate there, but that reference rather effectively perpetuates the idea, and encourages others to repeat the error. A pamphlet distributed by the present owner of the building states that:

> This turreted structure . . . was designed by Stanford White, famed 19th century New York architect, who designed but a few buildings in the Pacific Northwest, among them being the Portland Hotel and the Portland Union Station. It is considered by many as one of his most outstanding buildings.[4]

Fig. 1. Capital National Bank, Salem, Oregon, by C. S. McNally, 1892 (photo: author).

While it is true that the architectural firm of McKim, Mead and White furnished preliminary designs for the Portland Hotel and the Portland Union Station, they had nothing to do with the Salem bank. The Portland Hotel design was completed at a later date by William Whidden and Ion Lewis; and the Union Station as built, was de-

1. The similarity between these two buildings was first noticed by Marion D. Ross, who suggested this study to the writer.

2. For reference to the National Bank of the Republic, see William Campbell, 'Frank Furness, An American Pioneer', *The Architectural Review* CX, no. 659 (November 1951), 310–315.

3. Oregon Writer's Program, *Oregon, End Of The Trail*, American Guide Series (Portland: Binfords and Mort, 1951), p. 237. This reference is not in the 1940 edition.

4. First Federal Savings and Loan Association, Salem, Oregon, 'History of the Old Capital National Bank Building', *Presenting the New Home of First Federal Savings & Loan Ass'n.* (Salem, n.d.), p. 3.

signed by Henry Van Brunt and Frank Howe, a Kansas City firm.[5]

Someone, probably recognizing the distinctive quality of the Salem bank, mistakenly linked the design to Stanford White, and connected a series of near facts to start the tradition. A sample of that reasoning was once published in a now defunct Salem newspaper:

> Only three buildings in the west have this type of architecture, and all of them were designed by the late Sanford [sic] White, formerly of New York City. White came west to design this building, the Portland Hotel, and the Tacoma Hotel. . . .[6]

Actually it was Charles Follen McKim who came in 1882 to the West Coast in connection with furnishing designs for the Villard interests, but that was a decade before the Salem bank design.[7] Therefore, the substance of the White tradition seems to rest in the assumption that the bank looks like a White design, and in local ignorance that the little Salem bank was closely patterned after a bank in Philadelphia. That White would have copied the Philadelphia bank is certainly out of the question; in fact, it was not the case at all.

The real architect of this unique copy was a young man with the name of Cornelius Sarsfield McNally, a Canadian, born about 1858, who came to Salem in the late 1880s.[8] His first local mention is an advertisement for C. S. McNally and C. A. Robert, architects, 132 State Street, which appeared in the *Salem Daily Statesman* 15 February 1890.[9] This partnership continued until August of that year when it was dissolved, after which time McNally commenced a practice under his own name.[10] By 1891 he was able to advertise in the *Salem Directory* as follows:

> I have had the pleasure of furnishing plans for: State Reform School; Independence Public School; G. R. Crisman [sic] Block, Eugene; Cottle-Parkhurst Block, Salem; F. E. Hodgkin Residence and many others.[11]

The annual New Year's Edition of the *Salem Statesman* for 1891 recognized McNally's professional standing in a laudatory article titled 'Good Architecture'.[12] A similar item appeared in the 1892 New Year's edition, which included a long list of his architectural commissions and headlined him as THE ARCHITECT.

> Salem is fortunate in having a first class architect, in the person of C. S. McNally, whose picture appears with this article. He is a leader in his profession in this state, and his work is by no means confined to Salem.[13]

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5. Marion D. Ross, 'Architecture in Oregon 1845–1895', *Oregon Historical Society Quarterly* LVII, no. 1 (March 1956), 61–63.

6. *Your Town*, Salem (a short-lived paper), 21 February 1947, p. 5. A copy of this paper is located at the Salem Public Library. Mr. Hugh Morrow, the librarian, brought this to the writer's attention, and his assistance in several respects is gratefully acknowledged.

7. Charles Moore, *The Life and Times of Charles Follen McKim* (Boston: Houghton Mifflin Co., 1929), p. 319.

8. What little that is known of McNally has been gleaned from official documents.

California, Department of Public Health, Vital Statistics, *Standard Certificate of Death*, McNally, Cornelius Sarsfield, Date of event, October 28, 1938, Place of occurrence, San Francisco. This document gives the birth date as September 1858, which is inconsistent with the Voter's Registration Records as follows:

San Francisco Great Register of Voters, 1904
34th Assem. Dist., 3rd Precinct:
McNally, Cornelius Sarsfield
Age 44 [would give birth date of 1860]
4114 A 17th

For this information, the writer is indebted to the California State Library, Sutro Branch, San Francisco.

9. *Salem Daily Statesman* 15 February 1890, classified advertisement, 'New Today'. In following issues, the advertisement appeared under 'Professional Cards', until 12 August 1890.

10. *Salem Daily Statesman* 12 August 1890, 2. The C. A. Robert mentioned was the leading local architect, who arrived about 1886 with a background of fifteen years experience in Canada and eastern states, but mostly in Montreal. He designed numerous buildings in Portland and Salem. See the *Statesman* 4 January 1889, 3; 3 January 1890, 20; and 2 January 1891, 17. Prior to partnership with McNally, C. A. Robert practiced alone, and did the same after the dissolution of their co-practice. It is possible that McNally had previously worked with Robert either in Canada or in the East.

See also, *Salem Daily Statesman* 13 August 1890, classified advertisement, first appearance of C. S. McNally, on his own as a Salem architect.

11. Polk's, *Salem City and Marion County Directory* (Portland: R. L. Polk and Company, 1891), see advertisement inside front cover. Also see Obenauer's, *Salem and Marion County Directory* (Portland: Wm. G. Obenauer and Company, 1893), 10, for similar advertisement.

12. *Salem Daily Statesman* 2 January 1891, 5. The text reads as follows: 'The architect of the state reform school building was C. S. McNally, of Salem. On this he had competition from Portland and other points, but the governor, state treasurer and secretary of state considered his plans and specifications the best and most complete. He was also the architect of the fine new public school building at Independence and the fine residence there of F. A. Patterson. He has furnished the plans and specifications for some of the finest and handsomest residences recently built and building in Salem, including that of Supreme Judge R. S. Bean, A. Klein and others, and his reputation for good and thorough work has brought him orders from the chief cities of the Willamette Valley. He has just finished the plans for G. R. Chrisman's proposed fine new block in Eugene. Mr. McNally has pleasant quarters in the new Bush-Breyman block, Commercial street, and is provided with all modern appliances. He invites all who contemplate building to call.'

13. *Salem Daily Statesman* 1 January 1892, 22. The article continued: 'With the aid of a good architect a person can build a well constructed and modern appearing house as cheaply as a poorly put up and barny looking structure. Mr. McNally can give you valuable hints and assistance if you want to build. People erecting large buildings always consult an architect. There is quite as much reason in consulting one for smaller buildings, especially for a home for yourself. Following are some of the principal buildings for which Mr. McNally drew the plans or superintended the construction during 1891:

G. R. Chrisman, Eugene, brick block	$14,000
J. A. Wait, East Portland, residence	3,700
J. H. Settlemeir, Woodburn, residence	7,000
J. Ogle, Woodburn, residence	2,500
F. J. Babcock, Salem, residence	2,500
F. E. Hodgkin, Salem, residence	3,150

It was with this background that C. S. McNally was chosen to design a new front for the Capital National Bank. The bank was organized in 1885, but did not acquire the building and property in question until January of 1891. Plans for a new front and the addition of a third floor were probably started the same year. The architect's rendered elevation of the bank front appeared with an announcement in the *Statesman* of 8 January 1892 (fig. 3) under the headline A FINE BANK FRONT.

At a recent meeting of the board of directors of the Capital National bank the plans for a new front for the bank building, submitted by architect McNally, were adopted, and the president and cashier authorized to make the proposed improvement as soon as the material can be procured and the weather will permit the work to be done in a satisfactory manner. The materials to be used are rock-faced and cut stone, pressed and enameled brick, and plain and beveled plate glass. Judging by the elevation shown by the Architect, the Capital National will have the most attractive business front in the city.

Interior improvements were also a part of McNally's commission and preceded construction of the new front. By the first part of May, plans and specifications for the three-story stone front were finished and released for bids to be opened 10 May. While the proposals revealed a wide variation of costs, the differences were mostly due to color and quality of stone to be furnished.[14] The contract was awarded to Erixson and Luker, the 'lowest and best bidder'.

By the first of July, stonehewers were still busy preparing the rock, and the *Statesman* announced:

Work is progressing on the Capital National Bank's new stone three story front. It will be the handsomest front in the city, and will cost to exceed $10,000. The stone for it is now being carved and hewn.[15]

Not until the end of September were the masons sufficiently advanced in their work so that the building took on a finished appearance:

The massive three-story stone and marble front of the Capital National bank, on Commercial street, is fast becoming the most handsome front in the city. The granite columns and the variation in the colors of the brown stone and the graceful tower, the arches and the alcoves, will make of this building a model of beauty.[16]

A month later, the World's Columbian Exposition was dedicated in Chicago. With keen interest, Salem had been following the events leading up to the dedication. In fact, earlier that spring the *Statesman* had reprinted an article on Columbian Exposition Architecture. In the early 1890s, Salem was experiencing a period of rapid growth, and community pride in architecture was characteristic of the times. It was in this spirit that completion of the bank front was announced in the 1893 Illustrated Annual of the *Salem Statesman*:

Salem is justly proud of the stone banking house just completed by the CAPITAL NATIONAL. Its walls are built of Utah red sandstone combined with Tenino grey. The massive polished columns are of Scotch granite with heavy bases and caps of highly polished white Italian marble. The carving is all in bas relief, and is artistically done; the south wall being surmounted by a Griffin's head (the mythical offspring of the eagle and lion), signifying vigilance and strength, upon which rests the capstone bearing the monogram 'C.N.B.'. On the north wall a capital of acanthus leaves upholds the carved ashler [sic] bearing the date '1892'.

The keystone in the large arched window bears the facsimile of the Oregon Beaver Ten dollar gold coin of 1849. The massive carved capital of acanthus leaves resting upon the larger granite column receives the entire weight of the stone tower, without a suspicion of weakness.

The openings are filled with beveled French plate glass except in the third story where opalescent glass is used for its mosaic effect. Its architecture is unique in style, combining solidity with beauty.[17]

H. B. Brophy, Salem, residence	1,300
Chas. Cosper, Salem, residence	1,400
Asylum Farm buildings, for State	15,000
Asylum addition	3,190
Finishing North Salem school	1,647
South Salem school	9,999
Bush Block, Commercial street, Salem	7,000
Thos. Kay, residence, Salem	2,725
L. D. Henry, residence, Salem	3,100
R. S. Wallace, same	2,250
A. B. Buren, residence, Salem	1,300
Cottle & Parkhurst, brick block, Salem	12,000
F. C. Baker's cottage	700
Christian Church, Jefferson	2,200
Lyman Savage, residence, Salem	3,000
C. B. Brown, cottage, Salem	850
Bay City Land Co., Bay City, hotel block	4,000
J. O'Donald, Salem, residence	700
Lot Pearce, Salem, same	1,300
Will Woodworth, Salem, same	1,200
S. C. Adams, built by day's work	

14. *Salem Daily Statesman* [then known as the *Weekly Oregon Statesman and Pacific Agriculturalist*] 13 May 1892. The bids did not include plate glass, tile, or material and work for the third floor:

C. Carmichael: according to plans and specs	$4,226
Solid stone	4,475
Stanovitch: buff and blue stone, brick and terra cotta	3,650
red, buff and blue stone including polished columns of black granite with white marble cap and face	3,725
Tyler and Co.: according to plans and specs	3,950
Oleman and Patterson: material only	1,775
material and work	2,165
same in red, buff and blue stone with lower pilaster of pressed brick	2,485
Erixson and Luker: stone, pressed brick and terra cotta buff and blue stone only	2,400
blue and red	2,600
Stanovitch: work only	1,162
Rynearson and Headrick: not including work on granite columns	994

15. *Salem Daily Statesman* 1 July 1892, 4.

16. *Salem Daily Statesman* 23 September 1892, 7.

17. *Oregon Statesman Illustrated Annual 1893*, Salem, 3 January 1893, 34.

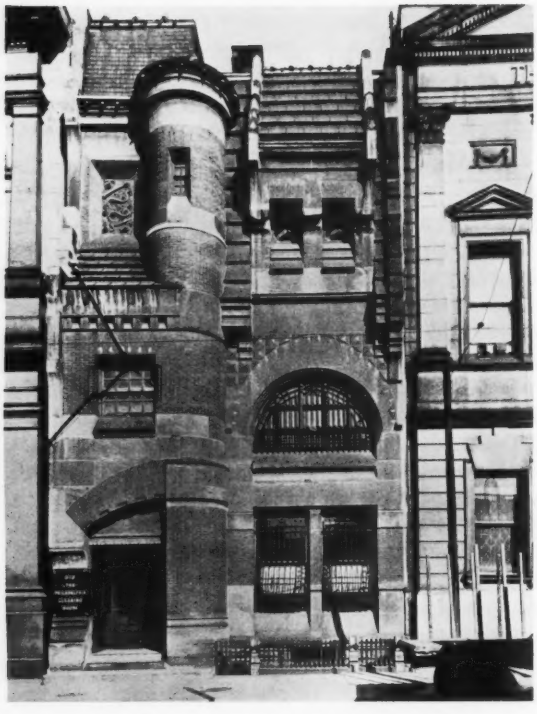

Fig. 2. National Bank of the Republic, Philadelphia, by Furness and Evans, 1884.

The final cost of the building was listed at $10,000, but work continued on interior improvements. When the fashion for parquetry floors arrived in Salem, the *Statesman* described the event as follows:

> The Capital National bank is having what is known as a hardwood parquetry floor placed in their bank. It is made of oak and mahogany, and contains fifty-six pieces to the square foot, which are glued tightly together. The entire floor is first laid, then a prepared filling is put on, after which it is waxed and a heavily weighted brush is run over it, packing it down and at the same time giving it a most beautiful polish. It is considered greatly superior to tile, as it has a much handsomer finish and is noiseless and retains a great amount of heat, which does away with the cold floor which is so disagreeable. This style of flooring is used extensively throughout the East.[18]

By April of 1893, the remodeled Capital National Bank was substantially completed. Scarcely six months later, McNally, after a busy three-year practice in Salem, abruptly left the scene. The *Statesman* which had carried McNally's name frequently, barely noticed his departure: 'C. S. McNally, for several years an architect at Salem, is now in Oakland, Cal.'[19] McNally's activities after leaving Salem are not known, except that he stayed in the San Francisco area and practiced until 1934, four years before his death.[20]

By comparing a photo of Furness' Philadelphia bank (fig. 2) with McNally's rendered elevation of the Salem bank (fig. 3), it is obvious that they were intended to be as identical as possible. The disposition of each element on McNally's façade is so closely related to Furness' design that McNally must have worked directly with a photograph or a copy of the original design.

Furness' bank originally had a conical roof on the *tourelle* which would have minimized the most obvious difference in the two buildings (fig. 4). McNally's design lacked Furness' sense of scale and personal style of decoration, but both designs were similar with respect to the use of materials. Generally, McNally must have been conscious of the unique charm and originality of Furness' design or he would not have followed the design so closely.

The foregoing assumes that the bank front was executed as per McNally's rendering, but that was not the case. The hard, smooth stone surfaces were substituted in the finished building with rough-faced stone masonry and accentuated joints. No brick was used. The half arch was executed in stone instead of brick. The base of the tower was supported by polished granite columns and though they were a common motif at that time, they gave quite a different effect than planned. In most other respects, the finished building was substantially the same, the character of stonework being the main point of difference from McNally's original copy of Furness' design.

For all of his borrowing, McNally has added little of his own. He comes a little closer to treating the façade as a single unified building. This is done by more nearly aligning the second-floor windows and by making them almost the same size. In the process, however, he has taken away some of the vigor of Furness' design.

18. *Salem Daily Statesman* 24 March 1893, 6.

19. *Salem Daily Statesman* 27 September 1893, 4. This is a reprint from the *Pacific Builder*, Portland. McNally's departure closely followed the Panic of 1893, a fact which may account for his moving to a larger city.

20. During McNally's last year in Salem, he was engaged in projects in both Salem and Portland. He designed several buildings for the State of Oregon and entered the competition for Salem's City Hall, which was given to another architect.

By the summer of 1893, several months before leaving Salem, McNally had taken W. C. Knighton as a partner, and together they designed a $40,000 addition to the State Reform School. They also designed additions to the State asylum farm cottages.

W. C. Knighton, a draftsman for C. S. McNally, continued McNally's Salem practice and later established a considerable practice of his own. Knighton was born about 1865 in Indianapolis, Indiana, and came to Oregon as a young man, probably about 1890. He was listed in Polk's 1892 *Portland Directory* as a draftsman for George Marshall, Jr., but he is also said to have assisted C. S. McNally with the 1892 Capital National Bank in Salem. The writer acknowledges Hugh Morrow's discovery of this fact. Drawings, owned by C. A. Bibbert, Salem, are said to have Knighton's name included. In Obenauer's 1893 *Salem Directory* Knighton was listed 'Wm. Knighton works for C. S. McNally bds same'. Knighton later had a very extensive Portland practice which continued until 1938.

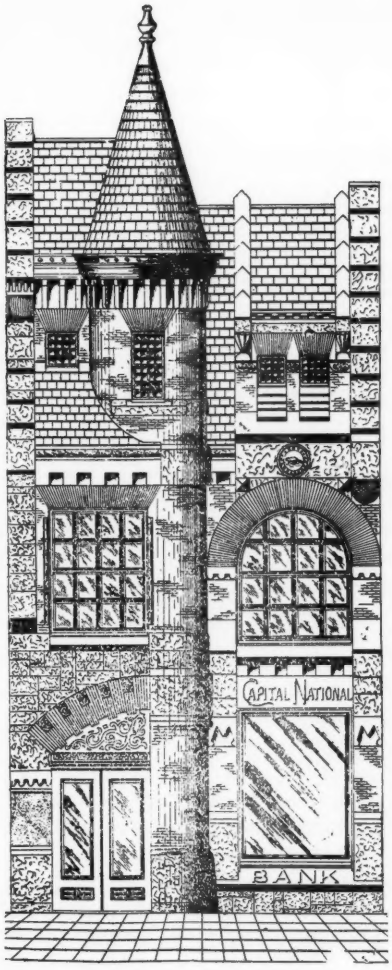

Fig. 3. Capital National Bank, Salem, Oregon, rendered elevation by C. S. McNally, 1892 (from *Salem Daily Statesman* 8 January 1892).

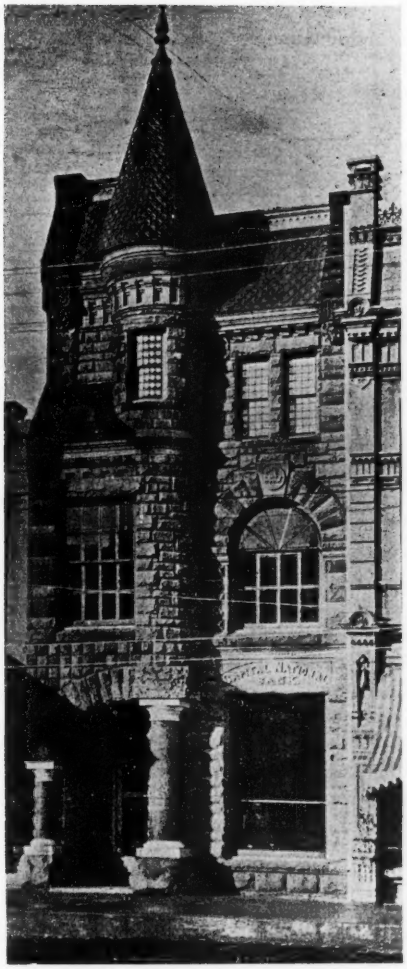

Fig. 4. Capital National Bank, Salem, Oregon, as built by C. S. McNally, 1892 (from *Oregon Statesman Illustrated Annual*, 1893).

McNally's innovations consist of adding such minor details as the griffin's head, the carved initials of the bank, the date, and the keystone upon which is carved a replica of the Oregon Beaver ten-dollar gold coin used in territorial days.

Two conclusions are in order. The popular and oft-repeated story attributing the Capital National Bank design to the more famous Stanford White is a romantic myth with no substance in fact. The real architect was Cornelius Sarsfield McNally, who appropriated the design from Frank Furness, Philadelphia architect of considerable originality, whom Louis Sullivan admired because Furness 'made buildings out of his head'.

By looking at McNally's other works, it is obvious that Oregon did not possess another Frank Furness. If McNally really understood or liked Furness as well as this little bank would indicate, his other buildings would reflect some of the same qualities, but in fact the architectural level of his work is only mediocre.

If anything, the similarity of function, of site, and general proportions, were simply too much of an opportunity for McNally to resist, and it must be assumed that he possessed a foreknowledge of Furness' design.

In that sense, Furness' bank represents more of a convenient precedent, rather than an architectural influence. In any event the McNally-née-Furness Capital National Bank in Oregon's capital city remains even today a little gem tucked between more ponderous but less inspired buildings.

Louis Sullivan and George Grant Elmslie

DAVID GEBHARD Roswell Museum, Roswell, New Mexico

MUCH has been written and said concerning the relationship between Louis Sullivan and Frank Lloyd Wright during the latter's days in the Adler and Sullivan office from 1887 to 1893. Unfortunately little attention has been paid to the importance of George Grant Elmslie (1871–1953), who worked closely with Wright in the Adler and Sullivan office during the years 1888 to 1893 and who increasingly from 1895 to 1909 was responsible for the design and production which emanated from the Sullivan office. An approach and analysis of Elmslie's contributions during his twenty years in the office is essential to any complete understanding or appreciation of Sullivan's late work. In fact a full study of Elmslie's work makes necessary at least a partial reappraisal of the contributions which Wright made while he was employed in the Adler and Sullivan office.

Because of an apparent lack of firm historical documentation most critics have been forced to rely heavily on Frank Lloyd Wright's account of the Adler and Sullivan office during the years 1887 to 1893.[1] At best these have produced an inflated picture of Wright's own contribution and have minimized the accomplishments of Dankmar Adler, Louis Sullivan, George Elmslie, Ritter, Schneider, Block, and others. Even Wright's description of Elmslie as 'a tall, slim, slow thinking, but refined Scottish lad who had never been young' has been generally accepted.[2] How different this description is from that of William Gray Purcell, who wrote of Elmslie that 'he was a man of quick imagination; his mind in architecture was highly articulate, succinct and competent. He was not a long distance talker, but he was by no means a silent person. He was a satisfactory companion in general conversation, very well read in literature. He kept his mind open to current thought and salted his good talk with Scottish humor and repartee.'[3]

Contrary to accepted fact Wright was never the chief draftsman of the Adler and Sullivan office.[4] During these years Sullivan kept too close a hand in all design to delegate any important aspect of it to one of his office staff, even to such a talented figure as Wright. It is certainly true that Sullivan was partial to Wright in many ways and that he allowed him considerable leeway in many of the projects upon which he was engaged. Yet to assert, as some critics have, that the twenty-year-old Wright was the equal of Sullivan in design during any part of the years 1887 to 1893 is not suggested by any factual evidence.[5] Even Wright's assertion that he occupied a private office next to Sullivan's is erroneous, for this small office was

1. Hugh Morrison, *Louis Sullivan* (New York, 1952), pp. 130–132; Henry-Russell Hitchcock, *In the Nature of Materials* (New York, 1942), pp. 7–14; Grant Manson, 'Sullivan and Wright, An Uneasy Union of Celts', *Architectural Review* CXVIII (November 1955), 297–300; also by Grant Manson, *Frank Lloyd Wright to 1910* (New York, 1958), pp. 21–34.

2. Frank Lloyd Wright, *An Autobiography* (New York, 1943), pp. 97–101; Frank Lloyd Wright, *Genius and the Mobocracy* (New York, 1949), pp. 46–47, 72.

3. Letter of William Gray Purcell to the author, dated November 1955. Additional factual information concerning Elmslie and Sullivan which is contained in this paper came from the exchange of letters with Elmslie before his death in 1953. In addition, much valuable information has been obtained from conversations and correspondence with William Gray Purcell. Also of interest is Elmslie's 'Autobiographical Sketch', which was probably first written in the late 1930s.

4. Manson, *Wright*, p. 23, and others have asserted that Wright had a private office while he was with Adler and Sullivan. Both Elmslie, letter dated 26 March 1952, and Purcell conversation, 3 February 1955, have said that this office was shared with Elmslie. Wright himself says this was the case in *Genius and the Mobocracy*, pp. 46–47.

5. Manson, *Wright*, pp. 27–30, attributes the interior ornament of all of these houses to Wright. He does note that Sullivan worked on some of the designs, but he goes on to say that 'internal evidence' makes it possible to attribute most of the designs to Wright. On the other hand this writer feels, as does Purcell, that a close study of this ornament indicates that it is Sullivan at his best, and that it gives us an indication of Elmslie's own growing ability as a designer.

shared with George Grant Elmslie.[6] As one would expect, Elmslie's and Wright's office time was largely spent on the designs of commercial and public buildings. The ornament which these two young draftsmen produced was wholly inspired by the design genius of Sullivan. Neither designer reached any degree of independence until 1893 and the years immediately following.

Another of the accepted beliefs is that all of the residential work (which one must bear in mind was an insignificant part of the firm's production) came from the hand of Wright.[7] Two of these houses, the dwelling for James Charnley, Chicago, 1892, and the town house for Albert W. Sullivan, Chicago, 1892, have been attributed to Wright. As a designer Wright was present in each of these buildings, but there are too many Sullivan features to think of these as being solely from the hand of his young draftsman. Such features as the loggia of the Charnley house and the projecting bay of the Albert Sullivan dwelling would seem to point to Sullivan rather than to Wright. The same is true of the ornament of both of these buildings, although the actual delineation was done by Elmslie and Wright.[8] In the development of this ornament both of the draftsmen kept very close to the patterns developed and used by Sullivan at that time. A close study of the ornament of these houses indicates that a major part of the ornamental patterns was designed by Sullivan and not by Wright. Wright's own ornamental designs of the years 1894 to 1900 very seldom approach anything like the freedom and independence of this earlier work. In fact few of his early independent ornaments may favorably be compared to the designs of the period 1890 to 1894 from the Adler and Sullivan office. Elmslie's part in the design of the ornament for these two houses may never be fully uncovered. We do know that he was involved with the delineation of the ornament for both of them, although their designs were certainly accomplished under Sullivan's strong influence.[9]

We are left then with a picture of the Adler and Sullivan office which portrays the design and philosophical dominance of Sullivan over his two young but talented draftsmen. The major changes which occurred in Sullivan's ornament and over-all design during the years 1887 to 1893 would seem to have been due to his own personal development and only incidentally to the stimulation and presence of either Wright or Elmslie. Sullivan was simply at the height of his creative powers during these years. As Elmslie wrote some time later, 'Sullivan did not, of course, need Wright; while the latter has emphasized in glowing terms the benefit he received in communion with his master'.[10]

The last major commission of the Adler and Sullivan office, the Prudential (now Guaranty) Building, Buffalo, 1894–1895, designed before the firm was dissolved, contains a number of known designs by Elmslie.[11] Among the many imaginative patterns and forms which Elmslie developed for the Prudential Building were two basic patterns which he was constantly to use in the years that followed. The first of these was a richly developed three-dimensional plant-like pattern which was flowing in total character. The second was a very clear, direct, and precise two-dimensional linear pattern. In these designs Elmslie used a simple plane surface or low relief design as a foil for the three-dimensional foliage ornament. The movement of the three-dimensional patterns rose to skim the surface of the building; the effect was entirely opposite to the ornament of a Baroque or Gothic structure. This two-dimensional quality must be understood as a key to Elmslie's later work with Sullivan and with William Gray Purcell. Thus by 1894–1895, Elmslie had already become an important figure in the Adler and Sullivan office.[12]

After Wright's dismissal from the Adler and Sullivan office in July 1893, and especially after the partnership with Adler was dissolved in 1895, Elmslie's contributions became even more significant.[13] Increasingly during these years Elmslie contributed to the designs produced by Sullivan, until in fact the last of these were entirely from his hand. Of these late buildings even Wright has written, 'I saw he [Sullivan] had been leaning heavily on George Elmslie who was still with him at the time these last buildings were being done. But for George at this time he could have done little or nothing.'[14] Sullivan found it increasingly difficult to obtain and to hold commissions, and even those which he did obtain, such as the Babson and Bradley dwellings, failed to hold his full interest. During these years clients found Sullivan difficult to deal with, and thus it fell upon Elmslie to shield Sullivan from the clients and at the same time to protect the clients from Sullivan. Without question the fact that the office obtained and

6. William Gray Purcell, letter to the author dated 30 November 1955.

7. See especially Manson, *Wright*, pp. 23–30.

8. This information is contained in a letter from Elmslie to the author dated 26 March 1952; also from a number of conversations with William Gray Purcell, 1953 to 1958.

9. See note 8.

10. George Grant Elmslie, 'The Chicago School, Its Inheritance and Bequest', *The Journal of the American Institute of Architects* XVIII (July 1952), 37.

11. Morrison, *Sullivan*, p. 174.

12. Purcell in a series of notes sent to the writer, 5 May 1958, states, 'George [Elmslie] told me that the only ornament from Sullivan's hand in this building was the great foliated terminal of the corner fillets as they flared out, climbed over the cornice like a rush of ivy, and the capitals of the first story supports within their ornamental frame.'

13. Morrison, *Sullivan*, p. 174; also Talbot Hamlin, 'George Grant Elmslie and the Chicago Scene', *Pencil Points* XXII (September 1941), 578.

14. Wright, *Genius and the Mobocracy*, p. 72.

held any commissions at all was due to Elmslie's ability to satisfy both Sullivan and the client at the same time.

In examining the general pattern of designs, it is at first very difficult to distinguish the work of the master from that of his chief draftsman. Unquestionably the basic concept of the structure and plan of the Condict (now Bayard) Building, New York, 1898–1899, the Gage Building, Chicago, 1897–1898, and finally the Schlesinger and Mayer (now Carson-Pirie-Scott) Store, Chicago, 1899–1904, were Sullivan's, but to a considerable degree the design of the ornament, details, and certain elements of the plans were Elmslie's. For example, the façade of the Gage Building in its entirety was the first project which Elmslie completely designed. This façade followed earlier Sullivan patterns very closely, and yet it differs in its details from Sullivan's own work.[15]

Each of these buildings, as well as a number of unrealized projects, indicates an increased grasp of the aesthetic problem of the skyscraper which reached its culmination in the Carson-Pirie-Scott Store. In this building cast-iron and terra-cotta designs were confined to the lower two floors where Elmslie felt it could be seen and experienced by the pedestrian on the sidewalk. All of the details both inside and out were designed by Elmslie. He described the layout of the ornament as that of a rather richly flowing picture frame formed to surround the rich and ornate window displays. Within the building, intricate sawed wood panels, grilles and stairs of cast iron, and terra-cotta ornament occurred in the first and second floors and in the eighth-floor restaurant. As in the earlier Bayard and several other buildings, a two-dimensional geometric ornament was used as a quiet backdrop for a rather delicate but flowing three-dimensional form.

Another early design which may be attributed to Elmslie is the projected dwelling for Mrs. N. F. McCormick, which was to have been built at Lake Forest, Illinois, designed *c.* 1900.[16] The similarity of this design in basic concept to the Winslow House of Wright (1893–1894) is apparent. It also shares many similarities with later work of a member of the progressive Chicago group, George Maher.[17] A frequent occurrence in the late domestic work of both Sullivan and Elmslie is a tendency to the formal and monumental in design. Although in the case of this house, the plan is quite free and flowing, and the exterior windows and glass doors break up the otherwise box-like interior. The projected dwelling for Ellis Wainwright, St. Louis, *c.* 1898–1900, follows the same broad outline of the McCormick House.[18] The same formalism is found in the Wainwright House and in Elmslie's first independent commission, a residence for his brother-in-law, W. G. H. Millar, built in Pittsburgh, Pennsylvania, in 1907.[19]

The three most widely known Sullivan buildings of the last years were the dwelling for Henry Babson, Riverside, Illinois, built in 1907, the National Farmers' Bank, Owatonna, Minnesota, 1907–1908, and the house for Harold Bradley, Madison, Wisconsin, 1909. Both of the residences were designed by Elmslie with only occasional suggestions from Sullivan. All of the existing sketches, presentation, and working drawings are from Elmslie's hand. Many of the design elements involved in these houses were continued by Elmslie when he joined in partnership with William Gray Purcell in 1909.

The October 1911 issue of the *Architectural Record* presented an interesting comparison between the Babson House and the Coonley House, Riverside, Illinois, 1907–1908, of Frank Lloyd Wright.[20] As Morrison has indicated, the Coonley House was the bolder of the two and a more complete departure from the past.[21] The basic difference between the two was that the Babson House tended to be more formal in spirit. Its scale was larger, its material perhaps heavier in feeling. It was saved from a ponderous monumentality, such as occurs in much of the work of George Maher during these same years, by a delicate and sophisticated interplay of light and heavy forms. The projecting second-story loggia, the leaded glass detailing of the windows, the general horizontal effect of the bands of windows, the terra-cotta designs, and the low gabled roof all contribute to this general effect.[22]

In the interior the influence may be felt not only of the concurrent work of Wright, but also of Gustav Stickley and the Arts and Crafts movement. A good share of the furniture, draperies, and other accessories were designed by Elmslie and without them the house appears bare and in places uninteresting. It would seem that the only feature of the Babson House which was suggested by Sulli-

15. Purcell, conversations with author, 1958, asserts that 'George [Elmslie] also told me that the Gage Brothers front was the first project which he produced in entirety'.

16. Illustrated in the *Catalogue of the Chicago Architectural Club* no. 15 (1902).

17. For examples of the work of George Maher see the *Catalogue of the Chicago Architectural Club* no. 8 (1895); also an article on Maher's work by A. C. David, entitled 'The Architecture of Ideas', *Architectural Record* XV (April 1904), 361–384.

18. Illustrated in the *Catalogue of the Chicago Architectural Club* no. 15 (1902).

19. Elmslie designed this house for his brother-in-law outside of the regular office hours, and it was designed without compensation. The first design for this house was projected as early as 1904.

20. This article was by the architectural critic, Montgomery Schuyler, and was entitled 'A Departure from Classical Tradition: Two Unusual Houses by Louis Sullivan and Frank Lloyd Wright', *Architectural Record* XXX (October 1911), 327–338.

21. Morrison, *Sullivan*, p. 207.

22. The Babson House was illustrated in the *Brickbuilder* XIX (September 1910), pls. 129–131.

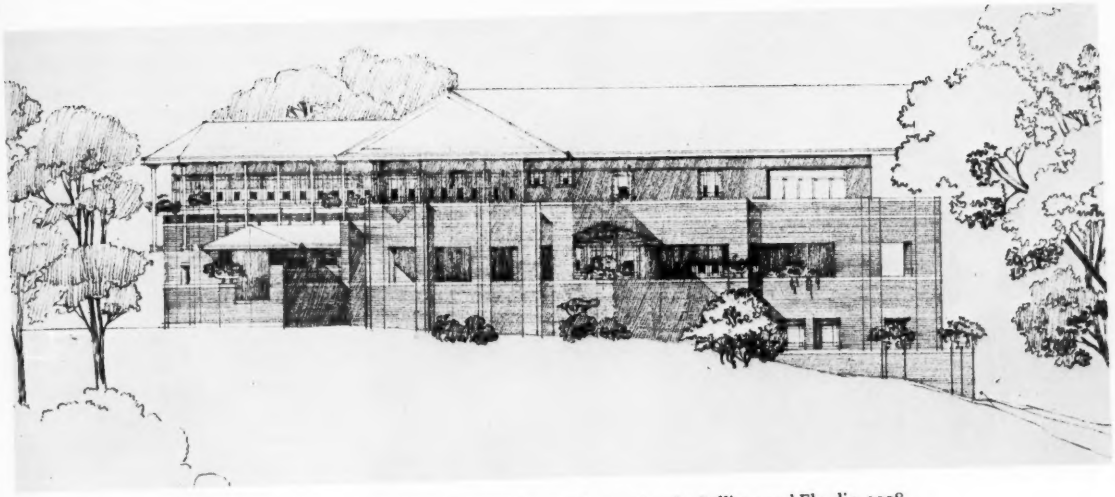

Fig. 1. Project for H. C. Bradley House, Madison, Wisconsin, north elevation, by Sullivan and Elmslie, 1908.

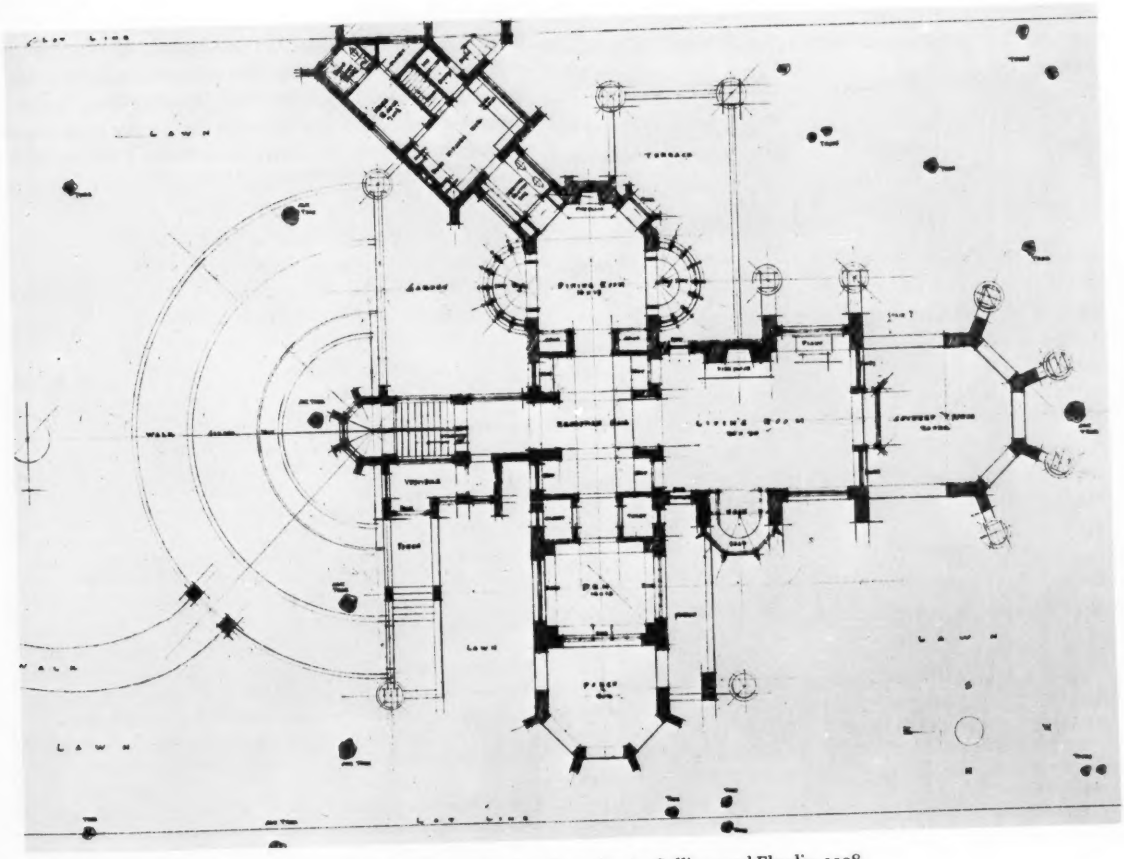

Fig. 2. Project for H. C. Bradley House, Madison, Wisconsin, first-floor plan, by Sullivan and Elmslie, 1908.

Fig. 3. Sleeping porch, H. C. Bradley House, Madison, Wisconsin, by Sullivan and Elmslie, 1909 (photo: author).

van was that of the second-story balcony. But even in this balcony the ornament in wood and glass was designed by Elmslie.[23]

The Bradley House at Madison, Wisconsin, indicates a growth in architectural form over the earlier Babson House. Two schemes were evolved for the house, the first of which was more elaborate than the later realized plan. This first scheme was cruciform in shape with living room and porch projecting off to the rear, an entrance and porte-cochere faced the driveway, a library to one side, and the kitchen and service area in the other wing (figs. 1 and 2). Numerous bays projected out from the main mass of the house onto the wooded site and a long band of casement windows lighted the second-floor rooms.[24] This plan was rejected by the Bradleys primarily because they felt that it did not express the modest house which they had in mind for a university professor.[25] Even the final scheme called for a far larger house than they had envisaged and in the end proved to be too expensive for them to maintain.[26] This second revised scheme contained the famous pair of cantilevered sleeping porches of the second floor (fig. 3). It would seem that this particular feature was probably Sullivan's, and it was Elmslie's task to integrate them into the plan. Although Elmslie himself was never fully satisfied with the final result, the design and detailing of these porches constitute one of his most mature designs.

The National Farmers' Bank at Owatonna, Minnesota, 1907–1908, has long been considered one of Sullivan's major contributions to American architecture. It has been known for a number of years that Elmslie's work on this building was by no means insignificant.[27] In fact the building was basically designed by Elmslie with only two elements of the design being by Sullivan: one of these was the ornamental pattern on the underside of the interior soffits of the great arches; the second was the basic box-like concept of the building.[28] Except for these, Sullivan did no other design or drafting work on the building. Originally Sullivan had suggested a grouping of three windows in a Palladian-like motif in each of the two street façades of the building.[29] In place of these Elmslie substituted the present large semicircular windows (fig. 4). The over-all simplicity of the exterior, the ornament and details were also Elmslie's (figs. 5 and 6). The treatment of the façade with the very heavy and smooth lower section of brown sandstone and the red brick walls broken by areas of earth-colored terra-cotta ornament became a characteristic of Elmslie's later work. The building in Owatonna was Elmslie's first introduction to the particularly American problem of a small-town bank. This introduction played an essential role in his later aesthetic contribution to this building type, a type which occupied much of the effort of the later firm of Purcell and Elmslie.[30] Before leaving Sullivan in late 1909, Elmslie also prepared the preliminary plan for the People's Savings Bank, Cedar Rapids, Iowa, which was finally built in 1911.[31]

In numerous ways both the Babson and the Bradley dwellings served as prototypes for a number of later residences designed by Purcell and Elmslie between 1909 and

23. This front balcony was later enclosed with leaded glass windows, and in addition several pieces of furniture were designed for it by the firm of Purcell and Elmslie.

24. The basic cruciform plan of this first scheme may have been in part by Sullivan, although the articulation and detailing of the plan were certainly Elmslie's.

25. Letter from Harold Bradley to William Gray Purcell, dated 26 December 1957.

26. See note 25.

27. Morrison, *Sullivan*, p. 210.

28. Letter from Purcell to the author dated 26 October 1957.

29. Morrison, *Sullivan*, p. 210. It is interesting to note that the basic plan of the bank at Owatonna was arrived at about the same time by Elmslie's close friend and later partner, Purcell. This was in a project for a bank building at Reno, Nevada. This project was illustrated in the *Catalogue of the Chicago Architectural Club* no. 18 (1905).

30. For a brief description of the work of the firm of Purcell and Elmslie see *Catalogue* prepared for the exhibit of this firm held at the Walker Art Center, Minneapolis, in March 1953. This catalogue contains two articles: an introduction by Donald R. Torbert and a brief paper and listing of their buildings by David Gebhard. Although Elmslie's work with Purcell is outside of the scope of this paper it should be pointed out that the work of this firm was the result of a very unusual and close design co-operation between the two partners and other members of their organization.

31. Mention of Elmslie's work on this building is contained in a letter of his to William Purcell and dated 21 April 1909.

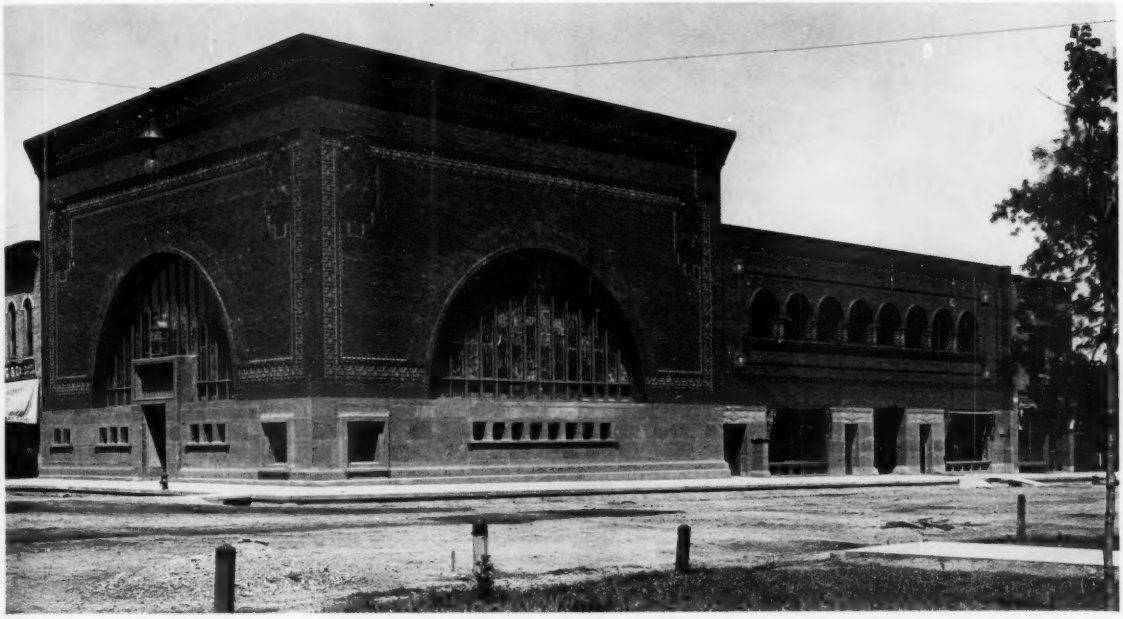

Fig. 4. National Farmers' Bank, Owatonna, Minnesota, by Sullivan and Elmslie, 1907–1908 (photo: Fuermann).

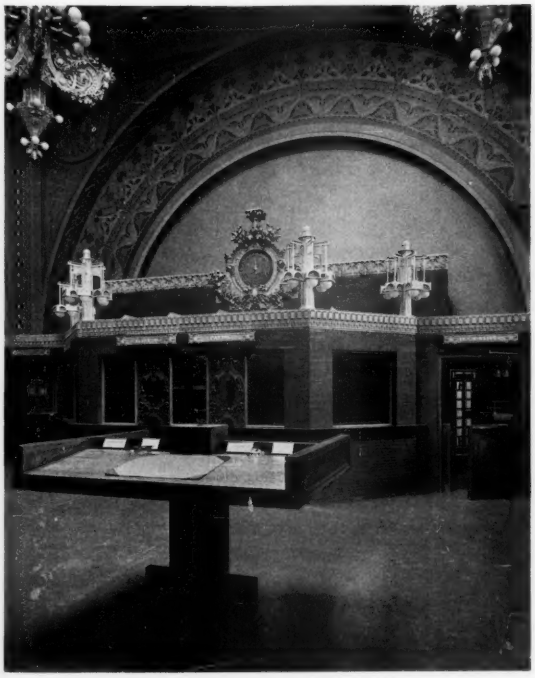

Fig. 5. Main banking room, National Farmers' Bank, Owatonna, Minnesota, by Sullivan and Elmslie, 1907–1908 (photo: Fuermann).

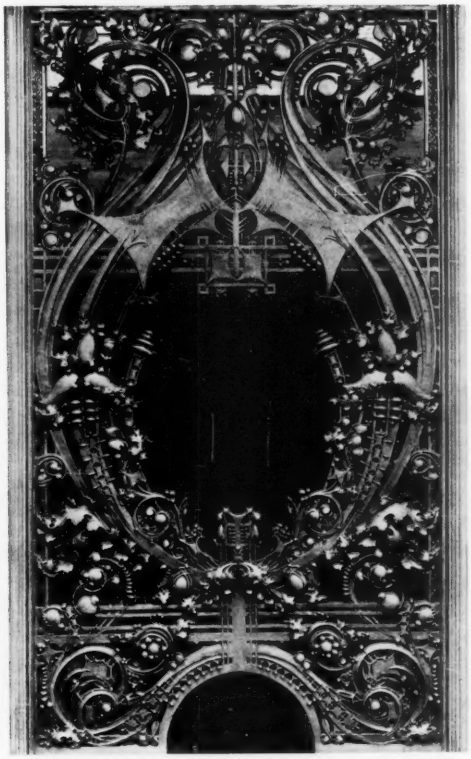

Fig. 6. Teller's wicket, National Farmers' Bank, Owatonna, Minnesota, by Sullivan and Elmslie, 1907–1908 (photo: Fuermann).

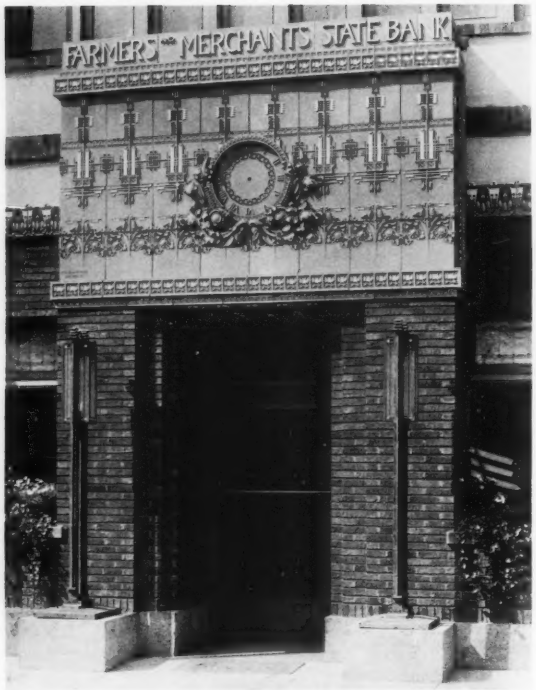

Fig. 7. Merchants Bank of Hector, Hector, Minnesota, by Purcell and Elmslie, 1917 (photo: Purcell).

1920. The well-known summer bungalow for Mrs. Harold Bradley, Woods Hole, Massachusetts, 1911; the E. W. Decker dwelling, Holdridge, Minnesota, 1912, and the E. S. Hoyt House, Red Wing, Minnesota, 1913, all grew out of the basic pattern of these earlier buildings. The same maturing and development took place in the ornamental designs of Elmslie accomplished while he was a member of the firm of Purcell and Elmslie.

The continuity of design of the Sullivan office, then, lies in the work of Purcell and Elmslie after 1909, rather than in the few banks which Sullivan designed after this date (fig. 7). Although a number of Sullivan's later buildings, the Merchants' National Bank, Grinnell, Iowa, 1914, the Home Building Association Bank, Newark, Ohio, 1914, and the People's Savings and Loan Association Bank Sidney, Ohio, 1917–1918, contain individual elements which are indeed tours de force in design, they do not stand up well when compared to the earlier National

Fig. 8. Purdue State Bank, West Lafayette, Indiana, by Sullivan, 1914 (photo: Warren).

Farmers' Bank of Owatonna, or with a good number of Purcell and Elmslie buildings of the same period.[32] Certain of Sullivan's small banks such as the Purdue State Bank, West Lafayette, Indiana, 1914, indicate his difficulty in arriving at a co-ordinated design solution (fig. 8). The unevenness of quality which typifies much of Sullivan's work after 1910 may be due not only to his own unsureness, but also to a young and gifted draftsman, Parker N. Berry, who succeeded Elmslie in the Sullivan office. The reason for the decline in quality of the last works produced by the Sullivan office lies not only in Sullivan's increased years and continual mental depression, but especially because he no longer had Elmslie to rely on.

The creative and original design solutions which were expressed in the later buildings of the Sullivan office before 1909 were not then an indication of a resurgence of Sullivan's creativity, but rather they demark the architectural development of George Grant Elmslie as a designer in his own right. With this in mind the work of Sullivan's later years becomes comprehensible, and the later designs of the firm of Purcell and Elmslie assume a new and increased importance in the history of twentieth-century American architecture.

32. Several excellent examples of Purcell and Elmslie's later bank buildings which carried on the earlier tradition of the Sullivan office are: the Merchants Bank of Winona, Winona, Minnesota, 1911; the First National Bank of LeRoy, LeRoy, Minnesota, 1914; the O. L. Branson and Company Bank, Mitchell, South Dakota, 1917; and the Farmers and Merchants Bank of Hector, Hector, Minnesota, 1917.

The Church and Former Monastery of St. Augustine, Macao*

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ONE of the most celebrated churches in Macao was once part of the Monastery of St. Augustine, which was established by the Augustinian Order. The founders were Spaniards from the Philippines, and this undoubtedly had an important effect on the church's development, for it took many years before the Augustinian community was accepted with equanimity by the Portuguese of Macao. It was inevitable that this active group of ecclesiastics should have become involved in many of the numerous political and social controversies which occurred so frequently in Macao's turbulent history.

During the period of the dual monarchy from 1581 to 1640, the Spaniards made persistent attempts to gain control of Portuguese interests in the Orient, nor did they limit their interference to commerce and administration, but also attempted to infiltrate the ecclesiastical establishment. Spanish Augustinians tried to enter China after the defeat of Ly Ma Hon, a celebrated Chinese pirate, who had attacked Luzon in 1574. The Spanish military commanders were eventually granted permission to send a mission to Fukien after negotiations with the admiral of the Chinese Imperial Force which took part in this joint expedition. The Portuguese regarded this as an unjustifiable penetration into their sphere of interest.

On 5 July 1575 this mission landed at Kienhai and proceeded via Cheungchau to Fuchau. They presented a petition to the viceroy soliciting permission to establish a permanent mission. He refused to grant their request and they were forced to return to Manila in 1575.[1] The Spaniards later sent a second mission, but this was also forced to return empty handed to Manila.[2] It was this failure which directed the attention of the Spanish Augustinians to Macao.

The historian Pe. Cristóvão de Nazareth[3] believed that the friar Miguel dos Santos (a nominated governor of the Bishopric of Macao) was the founder of the monastery and that he transferred both church and monastery to their present position.

On 3 April 1587 the Augustinian friars, António de Arcediano, Ildefonse Delgardo, and Bartholomeu Lopez sailed from Acapulco in the Philippines but were, unfortunately, shipwrecked on the Chinese coast. They arrived at Macao in July and were received into the Augustinian monastery, where they were befriended.[4] This confirms that the institution was established in Macao sometime before 1587.

The actual establishment of a Spanish mission in Macao is vaguely referred to by Marques Pereira in his *Efemérides*,[5] and he quoted the following passage as his authority:

> The 22nd August, 1589. The religious personnel of St. Augustine took possession of the Convent of Our Lady of Grace at Macao on this date. It had been founded previously by Spanish Fathers of the same Order, and at the suggestion of the Governor of India, Manuel de Sousa Continho, to Philip, was ceded to them.[6]

* The author takes the opportunity of acknowledging the kind assistance of the celebrated historian J. M. Braga of Hong Kong, who allowed him the unrestricted use of his private library and gave him much valuable advice; also of the ecclesiastical and government authorities of Macao, who assisted him during his investigation.

1. The mission members were Martinho de Harrada (also spelt de Herrera or de Herrado) and Geromino Marin. Marin later transcribed Herrada's reports to Spain in his own manuscript.

2. The celebrated account of Fr. João Goncalez de Mendoza (or Mendosa or Mendoca), afterwards the Bishop of Lipari, viz. *Historia cosas mas notables, ritos y costumbres, Del gran Reyno dela China* etc. (Rome, 1585). He added Herrada's observations (see *Alphabetum Augustinianum*, Madrid, 1644) to his own. He was a member of the Augustinian Order.

3. Pe. Cristóvão de Nazareth, *Mitras Lusitanas no Oriente* (New Goa, 1924), p. 369.

4. Fr. Fonseca, *Historia de la Provincia de Sino, Rosario* (Macao, 1896).

5. A. Marques Pereira, *Efemérides Commemorativas da História de Macau e das Relacões (da China) com os povos Christãos* (Macao, 1868), p. 75.

6. Artur Levy Gomes, *Esboço da Histôria de Macau 1511–1849* (Macao, 1957), p. 79. St. Augustine's (or Sto. Augastino or Convento de Santo Agostinho, as it is known locally) is referred to as a

Nothing more is known until 1591, when the monastery may have been moved to the present site. Some authorities are of the opinion, however, that the establishment always occupied the same site and that this changeover was merely a reference in the journals to an alteration in the positions of the doors of the building.[7]

It may be assumed, however, that the Augustinians, like the other orders, were granted the dominating site on the summit of a hill, so that the church was a focal point in the city.

Throughout the period of the Spanish domination the Portuguese distrusted the Spaniards, and the appointed officials of the King of Spain were usually Spanish or Portuguese with Spanish sympathies. The Macao authorities were particularly resentful of the presence of Spanish ecclesiastics in the city, and they complained bitterly about them to the viceroy at Goa. The situation eventually improved when the convents and monasteries of Spanish origin in Macao were handed over to Portuguese members of the same order. According to Sir Andrew Ljungstedt this occurred in 1589.[8]

Little is known of the early history of the Portuguese Augustinians, although some friars worked in the Japanese missions and suffered persecution there. Their relationship with the Macanese seems to have been uneventful and by 1620 the sanctuary chapel was finished, although the remainder of the church was not complete. It is possible that both the convent and the church buildings were finished between 1600 and 1620, for this was a period of great prosperity in Macao. As no original sources of information exist, this is an assumption based upon the tremendous amount of building activity which occurred during these years on other churches.

St. Augustine's had no known architect, but it may be assumed that it was designed by a priest who had some knowledge of building. The plan is obviously influenced by Iberian traditions. The priests probably arrived at their final design through a strict analysis of the ritualistic function. The services involved both congregation and friars, and it may be assumed that the plan reflected the special requirements of churches in Macao. For example, the choir gallery accommodated the catechumens, who entered it from an outside entrance which was a standard procedure at this time.

The ornamentation reflects the amateur architect, for it is a robust mixture of classical motifs, which are often extremely original in arrangement, for example, the reverse volutes on the elevation. Local craftsmanship accentuated their originality.

In 1620 the prior of the order, Friar Simão da Sto. Antonio and Friar Aurelio Coreito, the procurator of the monastery, were presented with part of the cargo of a Portuguese ship at a thanksgiving ceremony. This gift commemorated the deliverance of Portuguese merchants and sailors who had been attacked by the Dutch on the annual Japan voyage,[9] and it was intended that it should be used to build a chapel dedicated to Our Lady of Penha of France. This may have been intended for the church, but it was probably used on the chapel of Penha, which still exists at the present time.[10]

In 1623 Don Francisco Mascarenhas was appointed the Captain-General of Macao. He was a most unpopular administrator, and after a period of violence and discord he took sanctuary in the monastery and was actually shelled from the Monte Fortress which made three holes in the walls.[11]

During the seventeenth century the Augustinians prospered exceedingly and were granted or willed much property in Macao and on the adjoining islands, so that the order enjoyed a substantial local income, part of which was used in the upkeep of their premises.[12] Unfortunately, the Augustinians were actively involved in the unfortunate Rites controversy when they championed the authority of Charles Thomas Maillard de Tournon,[13] the Patriarch of Antioch and Apostolic Legate, against that of Dom João do Cazal, the Bishop of Macao. They also offered him the sanctuary of the monastery, and this was viewed as a treasonable affront both to the authority of the bishop and the Macao community, so much so that on 12 July 1692 Cazal excommunicated any person who entered St. Augustine's for Mass or any other religious purpose, and had a notice posted on the monastery door, in which de Tournon was publicly challenged to substantiate his authority and to revoke his censures of excommunication and other decrees. The resultant tension which developed in Macao

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convent in the records, but this does not mean that it accommodated nuns. Throughout this paper it is referred to, therefore, as a monastery. The term convent appears to have been used as a designation for any religious house regardless of the sex of the occupants. The church itself was dedicated to Our Lady of Grace.

7. J. M. Braga, *A Ingreja de Sto. Augustinho eas Augustinhos em Macau* (Macao, 1946), pp. 824–825. The author states that he has been unable to find or substantiate these statements.

8. Sir Andrew Ljungstedt, *A History of the Portuguese Settlements in China* (Boston, Mass., 1836), p. 19.

9. C. R. Boxer, *Boletim Eclesiástico da Diocese de Macau* XXXIV, no. 397 (April 1937).

10. The chapel or hermitage of Nossa Senhora da Penha was later incorporated into a fortification. In the middle of the nineteenth century a new building was erected, and this is today the private chapel of the Bishop of Macao.

11. He eventually had the three cannonballs gold-plated, sending one to the king, the other to the viceroy and keeping one for himself. See C. R. Boxer, *Macao Three Hundred Years Ago* (Macao, 1942), pp. 84–85.

12. de Nazareth, *Mistras Lusitanas*, p. 389. Paschal M. D'Elia, *Catholic Missions in China* (Shanghai, 1934), p. 103.

13. Pereira, *Efemérides*, p. 31.

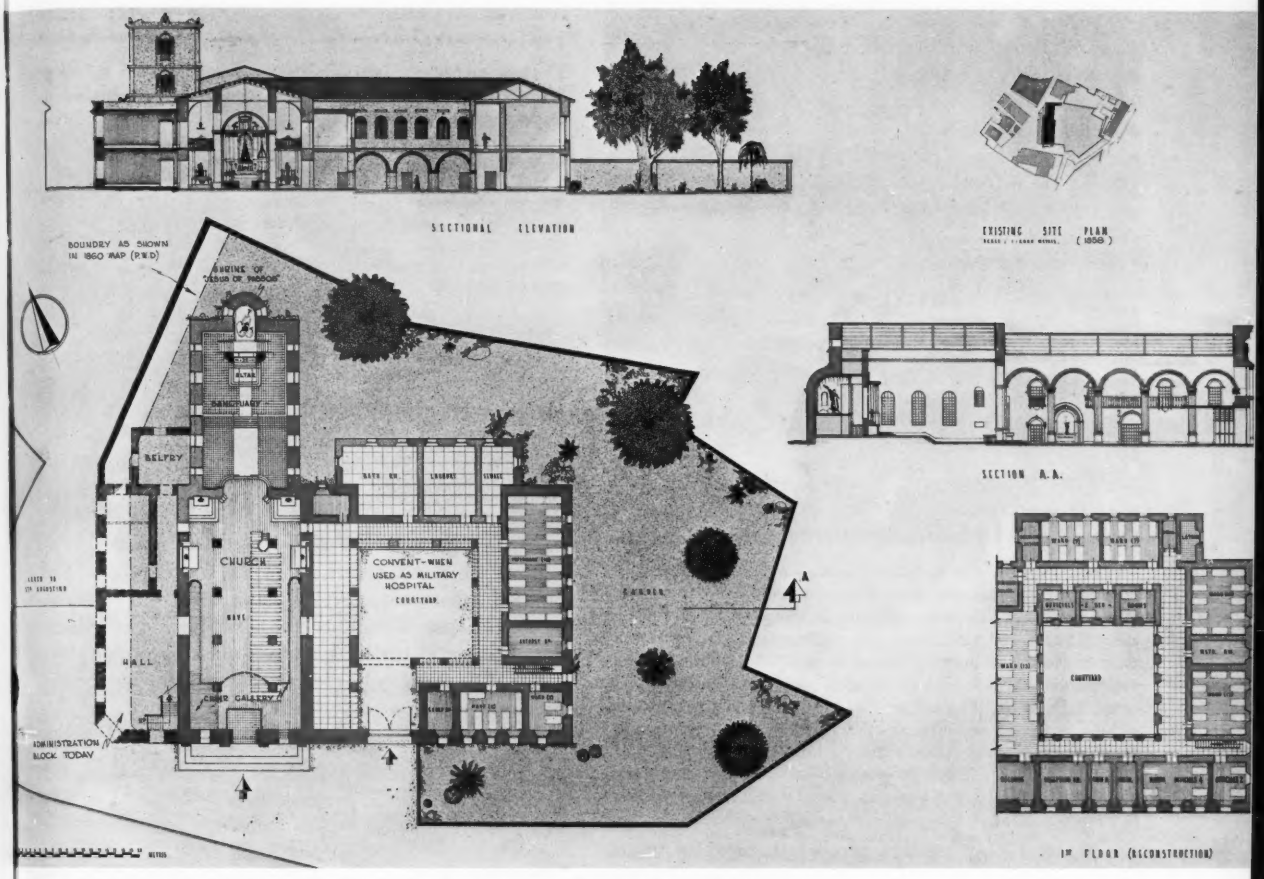


Fig. 1. Plans, sections, and site plan, Monastery of St. Augustine, Macao, at the present time.

was so bitter that de Tournon was confined to the precincts of St. Augustine throughout his stay in Macao.[14]

His elevation to the rank of cardinal, and subsequent death on 8 July 1710, resulted in the appointment of a new papal delegate to resolve the dispute.[15] The bishop thereupon modified his attitude and attempted to placate the outraged Augustinians, but this only confirmed their suspicions. Eventually the authorities resolved the impasse by expelling the Augustinian order. The friars were deported to Goa on 18 January 1712.[16]

The monastery was abandoned for nine years. In 1721 João V ordered its reconstitution and directed the Macao Senate to make an annual contribution towards its upkeep. This confirmation of the Augustinian stand resulted in much local bitterness, particularly as it was followed in 1724 by the appointment of the new Augustinian Superior, Eugenio Tregeiros, to the Macao Bishopric.[17]

There is no further mention of St. Augustine's until 1778, when it is recorded that nearly all the valuable ornaments in the church and sacristy were stolen by a Chinese.[18] He demanded, and received, the payment of a 500 taels ransom before its return. This sum was loaned to the prior by the citizens of Macao at an interest rate of seven per cent.

From 1780 to 1834 the Augustinians declined in status due to a shortage of priests and the active participation of those who remained in the political disputes of the Miguelists and the Conservatives.[19]

14. C. R. Boxer, 'The Portuguese Padroado in East Asia and the Problem of the Chinese Rites, 1576–1773', *Boletim Instituto Portugues de Hong Kong*, no. 1 (July 1948), 199–226.

15. Pereira, *Efemérides*, p. 2.

16. Bento da Franca, *Subsídios para a História de Macau* (Lisbon, 1888), p. 100.

17. João do Cazal (Casal), Bishop of Macao 1690–1735, and Eugenio Tregueiros, O.S.A., Bishop of Macao 1735–1739. An account of his life may be found in Pe. M. Teixeira, *Macao E. A. Sua Diocese* (Macao, 1940), pp. 196–205.

18. de Nazareth, *Mitras Lusitanas*, p. 389.

19. Ljungstedt, *A History of Portuguese Settlements in China*; and Pereira, *Efemérides*, p. 101.

On 20 October 1834 the Portuguese home government promulgated a decree expelling the religious orders and confiscating their properties, but it was only in September 1836 that the Augustinian properties, which included six houses and buildings worth approximately 5,000 patacas, were auctioned.[20] St. Augustine's was then in use as a parish church, for Ljungstedt states that the religious procession of Our Lord the Good Jesus of Passos was still carried out after this date.

In 1856 the monastery, like many other abandoned church buildings in Macao, was used as a barracks for a battalion of troops for a short time, but it was later handed back to the authorities for use as a shelter for the destitute. It was only occupied briefly until the inmates were transferred to the Convent of St. Clare.[21]

On 6 June 1857 the residential building was transformed into a military hospital and many changes were made in the structure.[22] An interesting report of the adaptation was made by the then Chief Surgeon of Macao, Dr. Lucio Augusto de Silva, in these words:

> The building is on a hillock, sited in the centre of the streets inhabited by the Portuguese, about 200 paces from the Se [Cathedral]. It is higher than any of the adjacent buildings which are further away. The sea, and a large part of the northern, eastern and southern areas of the City can be viewed from it. The building is constructed in four blocks about an internal courtyard. The south wing forms the main elevation and on the top story the following general purpose rooms are provided; an office for recording information relating to patients, a reception room, the head nurse's room, a surgical instrument store and two rooms for officers; one containing four and the other two beds. Adjacent to and in front of these units is a corridor which has a window opening to the east at its end.
>
> The East wing contains two wards separated by a small room in which medical equipment is stored. There are thirteen beds in the one ward and fourteen in the other; each of them is able to accommodate a further two in times of emergency. A corridor, having its windows facing onto the internal courtyard, is parallel to these two wards.
>
> [in front of this] on the ground floor, there is a theatre for autopsy and a ward accommodating 18 beds which has, however, only been used on one occasion when the building was white-washed.
>
> In the northern [block] there is a long corridor which affords access to the dressers and the assistant dressers, two seven-bed wards, a second dressers' room and a dressing and utensil store. At the extreme east there is a latrine. Opening off the corridor are three rooms for junior officers, containing two beds, which have windows onto the internal courtyard. Underneath this block are bathrooms and a laundry.
>
> The West wing is a corridor which has windows facing onto the central courtyard only, the opposite side adjoining the church lacks ventilation and contains thirteen beds only. The corridor below this [unit] serves as a passage leading to the sacristy of the church.
>
> The hospital has two gardens, one of which is adjacent to the North Wing. This serves as a kitchen area for the Chinese servants and includes a well with good and abundant water. The other is adjacent to the East Wing. Trees have recently been planted to provide a small walking [area] for the patients.
>
> The building is old and during periods of heavy rain and strong wind the roof being in need of repairs requires continuous maintenance. Every year the roof receives further damage; only a costly renovation would provide the building with all the requirements of a good hospital.

The monastery reconstruction plan is based upon this description, but the complex was very much larger than anything existing at the present time (fig. 1). Nevertheless, the property adjoining the church does show traces of the old foundations and contains scattered fragments of the former cloister capitals. The reconstruction should be treated with reservation, however, for, at the best, it can only provide a rough approximation of the former appearance of the monastery.

After the Macao government built the hospital of San Januario, the monastery buildings were sold to Artur Basto. He later demolished them and built a residence, the adjoining Villa Flor. After his death this property was acquired by its present owners. Throughout this period the church remained untouched.

On 17 April 1884 an agreement was reached between the authorities at Macao and The Brotherhood of Our Good Lord of Passos whereby this St. Augustine's organization agreed to accept future responsibility for the church and its maintenance.[23] Commander Lourenco Marques took an active part in influencing the authorities to accept this arrangement, and it is pleasing to record they have never had cause to regret it. The church has remained untouched since this date.

St. Augustine's is one of the longest churches in Macao and the plan form is similar to the Monastery of St. Dominic's which was built in the same period.[24] It was probably created by joining two churches together. A small chapel, later the sanctuary, was built first and was expanded to the present plan after the establishment of the monastery and the subsequent desire for more space.[25] A series of rising levels lie before the approach to the high altar. Behind the altar screen is a shrine six feet above floor level which houses a statue of Christ and the Cross, commonly

20. A pataca was a Macao coin which was valued at approximately 320 reis or five escudos. The toal value of these properties was therefore about £300. Braga, *A Ingreja*, p. 337.

21. *Boletim de Governo de Macau* (Macao, 1857), pp. 821–822.

22. Dr. Lucio Augusto da Silva, *Relatorio Cerca do Servico de Saude de Macau, a presentado ao Conselho de Saude Naval e do Ultamar* (Macao, 1857).

23. The Brotherhood of Our Good Lord of Passos was also called The Brotherhood of Our Lady of Penha. It was developed by the congregation after St. Augustine's became a parish church.

24. M. Hugo-Brunt, 'The Church of St. Dominic at Macao', *Journal of Oriental Studies* IV, nos. 1 and 2 (1957).

25. The Monastery of St. Dominic (St. Domingo) had a similar internal arrangement. See Hugo-Brunt, 'The Church of St. Dominic at Macao'.

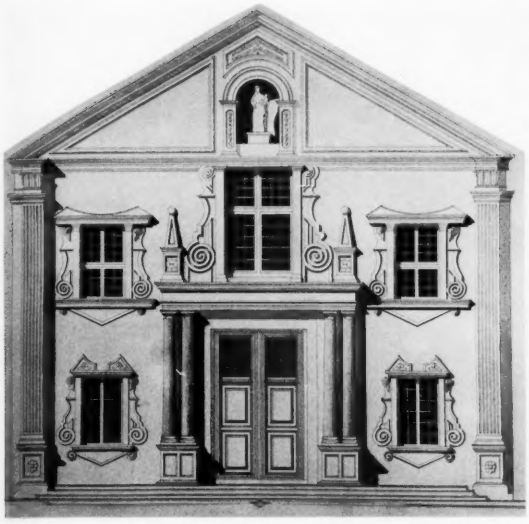


Fig. 2. Drawing of southwestern elevation (courtesy of A. H. Wahab).

Fig. 3. Interior, with high altar (photo: author 1956).

known as The Jesus of Passos.[26] The statue is lighted from two small windows on either side and has a low ceiling coinciding with the roof of the apse. It is painted in dark colors, mauve, blue, and brown predominating. There is a noticeable interplay in the ceiling levels of both sections as well as an arched division between the later section of the church and the sanctuary. This arrangement was sound in terms of function because it divided the congregation from the clergy and the altar.

The high altar is the dominant element in the church seen from the point of entry. St. Augustine's has a gallery at the rear over the entrance, which was used by the choir and the catechumens. The gallery is U-shaped and stretches three-quarters of the length of the aisles. It is supported on corbelled brackets and has a white timbered balustrade which curves in front of each window. Below the gallery there is a floral-bracket support of stucco. The interior of the church is simple and the interplay of volumes is such that the longitudinal axis is accentuated throughout. The walls are painted white and the woodwork brown—the only other colored elements being the altars, religious objects, statues, and floor tiles. The high altar was Spanish in inspiration. It is made of wood and is decorated in white and gold.

The sanctuary is approached from the nave through the arch and is defined by a timber railing and one step. Halfway between the nave and the high altar the floor is raised five steps. The altar is raised a further three steps. The surface is covered in blue, ochre, red, and brown patterned tiles 9″×9″×½″ in size. The processional way in the center is laid in a pattern of white tiles, while the skirting is formed by double tiles.

The high altar, situated as it is in the center of the sanctuary, required delicate treatment to relate it in its setting and to ensure that it did not appear as an isolated element. The backpiece incorporates a statue in a central niche framed on either side by three composite capitals with high bases and terminated by decorative urns. A small classical pediment is placed above it to house a fresco. The backpiece is elaborately carved and decorated. The altar-table is made of Italian marble and is original.

St. Augustine's contains four subsidiary altars, two of which are placed against the wall at the end of the aisles. Two others are adjacent to this and are built into the aisle walls. These have altars of Italian marble and are enclosed by two composite capitals and a classical pediment. In the center of each are the containers for the host, which are flanked by two saints.

The columns between the aisles and the nave are square, elaborately fluted and capped by rectangular capitals with highly stylized acanthus leaves or other floral decorations. The soffits and surrounds of the spanning arches are treated in stucco with flowering wreaths alternating with a stylized geometric design between the arch panels (fig. 3).

The workmen who built the church were Chinese, and because materials from the mother country were expen-

26. The Jesus of Passos is a fine example of eighteenth-century Macao church sculpture. The statue is believed to weep on occasion, in which case it heralds disaster or calamity. The brotherhood received its name from it.

Fig. 4. Southeastern aisle, altar, and part of choir gallery (photo: author 1956).

Fig. 5. Northwestern elevation of sanctuary chapel (photo: author 1956).

sive, those used were mainly local. Tiles were employed extensively because they were easily obtained as well as being traditional elements in Portuguese architecture. Walls and beams were larger than were structurally necessary because the builders worked by rule of thumb, and it is interesting to note that the church has always withstood typhoon weather effectively. Local brick and timber were the main structural materials, while surfaces were rendered with a plaster made of lime from sea shells, sand, and molasses. The windows were originally made with small strips of translucent conch shells set in timber frames.

The limewash color was carefully chosen to keep the interior cool, and this effect was intensified by the provision of shutters, the thickness of the walls, and the high ceilings. The church was further insulated by the monastery and the administration blocks on either side of the most extensive wall surfaces.

Two doors are placed symmetrically in the northwest and southeast aisle walls, one being larger than the other (fig. 1). The southeast door originally led to the monastery buildings, but it is rarely used nowadays. The northwest door leads to the administration block, which has a subsidiary entrance. The windows of the nave are small, irregularly set, and have stucco decorations above their arches (fig. 7). They may have been added later for they lack uniformity and are smaller in size than is the case in other Macao churches. There is evidence of the use of a module, for the aisles are approximately half the size of the nave and the height of the columns is exactly twice the width of the aisle.

The roof is constructed with Chinese tiles, timber trusses, and purlins in the round of Chinese fir. There are two separate roof sections, each of which supports a boarded ceiling divided in sections by the tie beams (fig. 3). The ceiling is bordered with a decorated fretwork design where it adjoins the arcade and the cross beams, while light chandeliers are suspended from carved ceiling roses of acanthus leaves (fig. 3). The ceilings of the aisles are formed with cured boarding.

The northwestern elevation of the church is obscured today by a block of meeting rooms and small chambers. The present elevation is simple and contains a series of similar shuttered windows on two floors (fig. 6). The ground floor has a stone plinth and is demarcated by three mouldings, one above the ground-floor windows, another being rectangular in shape forming the sill of the first-floor windows, and yet another taking the form of a moulded scroll ending in two volutes between these. The roof is behind a parapet wall with a tiled coping.

The belfry tower adjoins the administration block and the sanctuary in the northwest. It was probably added later and was not part of the original conception. It was skilfully sited to become a landmark in the town, and it was visible from three intersecting streets.

The intermediate walls of the administration block are framed partitions on the first floor, although they are solid load-bearing on the ground floor. The entrance hall incorporates a timber staircase to the choir gallery, as well as providing an entrance to the church through a side door. Window sills and the floor are made with floral patterned tiles of an earlier date. The building was colored

Fig. 6. Belfry, and part of administration block and sanctuary chapel (photo: author 1956).

Fig. 7. Window detail, choir gallery (photo: author 1955).

yellow externally and the decorative motifs, stringcourses, eaves, and window surrounds were picked out in white.

The southwest elevation (fig. 2) is remarkable for the crude spiral scrolls and inverted volutes used to emphasize the windows. These are placed between the sills and the architraves. A stop is provided on both sides of the façade by a fluted pilaster on a rectangular base which includes a cornice supporting an acanthus leaf capital. Three steps lead to the main entrance. The axis of balance in the elevation is resolved by a dual column Doric portico, the central window and a statue niche. This portico incorporated two robust finials on rectangular bases above the portico cornice and directly above the outer columns.

The pediment cornice and the main gallery window are situated above the entrance, while two tiers of windows of different sizes are spaced in the left and right panels. All of the windows are surrounded by robust scrolls reminiscent of Flemish strapwork. Smaller stucco scroll volutes were placed below the windows. The pediment composition is terminated by the statue of the Virgin and Child and a floral stucco panel. On either side of the pediment are two triangular right-angled panels. A small cross stands on the apex of the roof but is not seen easily from a distance.

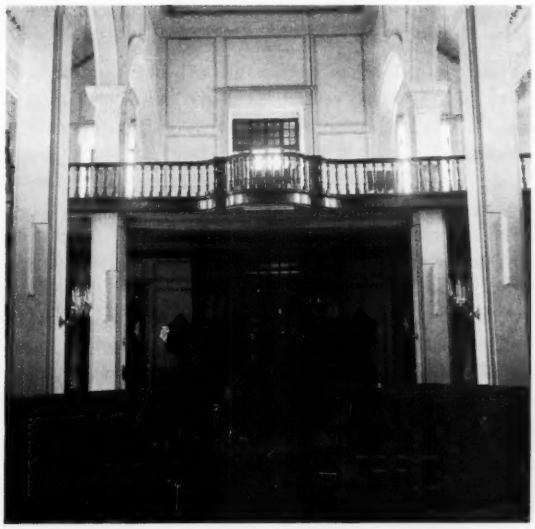


Fig. 8. Choir gallery and rear of nave (photo: author 1955).

The present church is in fair condition although there are marked signs of white ant infestation in the timber work—particularly in the ceiling. St. Augustine's cannot be seen to its best advantage today because of the encroachment of the outbuildings and adjoining villa garden walls. The church exterior does need complete renovation, repainting, and reconstruction. St. Augustine's functions as a parish church at the present time, and was particularly favored by refugees during the war. The building is, fortunately, situated in the older section of Macao where the adjoining structures are in harmony with it. St. Augustine's adjoins a cobbled square shaded by a large tree on the western side, and it is one of the few Macao churches still retaining the original design.

AMERICAN NOTES

New England Pyramids, 1651-1705

MARIAN CARD DONNELLY

Mrs. Donnelly, whom we first knew as Yale student Marian Card, has prepared a statement about the 'pyramids' put up by early Yankee carpenters.

The Oxford Dictionary (1909) cites, among others, the following early uses of the word: 1600—'a Pyramis or Steeple'; 1632—"The Carpenters . . . all waies vsed to have the cutting of . . . ballesters, hauces, taffcrells, pendants and piramides'; 1634—"The piramides upon the little gable ends'.

Can any reader contribute information to Mrs. Donnelly, whose address is 1165 E. 54th Place, Chicago 15? —Ed.

In the town records of seventeenth-century New England there are at least five references to 'pyramids' on meetinghouses. The earliest I have seen is that of 17 January 1651, when in Dedham, Massachusetts, it was voted to build 'one pyramedy at the south end'. The other four instances are found in Connecticut records. John Clarke at Haddam was instructed in 1672 to put up 'tooe pramedyes at each end' of the meetinghouse. At New London in 1682 it was voted to build 'pyramides comely and fit for the work', and in the same year at Simsbury, Thomas Barber was to 'put up Flue Boards at each end., and piramides also'. Finally, in 1705, it was voted to 'mend the pyramid' on the meetinghouse at Norwich, which had been constructed during the years 1673–1675.

Pyramids are not part of our usual mental picture of the New England meetinghouse. Apparently the first historian of American architecture who noted and attempted to account for the use of the term was J. Frederick Kelly in his *Early Connecticut Meetinghouses*, II, 194, who said: 'It may be conjectured, however, that the pyramids referred to were turrets or cupolas, probably so called because of the pyramidal form of their roofs.' In the case of the Dedham meetinghouse not only is the turret named, but also it is known that the 'penthouse' was at the north end of the building, while the 'pyramedy' was at the south end. We should not, then, so easily think of the 'pyramid' as a turret.

The pyramid, obelisk, or finial was a fairly common architectural device in the sixteenth and seventeenth centuries. The term was used to indicate an obelisk as well as the shorter form of the Egyptian tomb pyramids. Obelisks as such appear in the works of Serlio. Martino Bassi, in his *Dispareri in Materia d'Architettura et Perspettiva* (Brescia, 1572), included pyramids in his designs for sepulchres and altars. Joseph Furttenbach placed four pyramids on a grotto which he published in his *Architectura Civilis* (Ulm, 1638). In Book VIII of the *Cours d'Architecture* (Paris, 1671–1675) Jacques François Blondel said that the pyramid originated as a funeral monument. This was repeated by D'Avillar's *Cours d'Architecture* (Paris, 1691), in which the glossary defines the pyramid as a symbol of immortality.

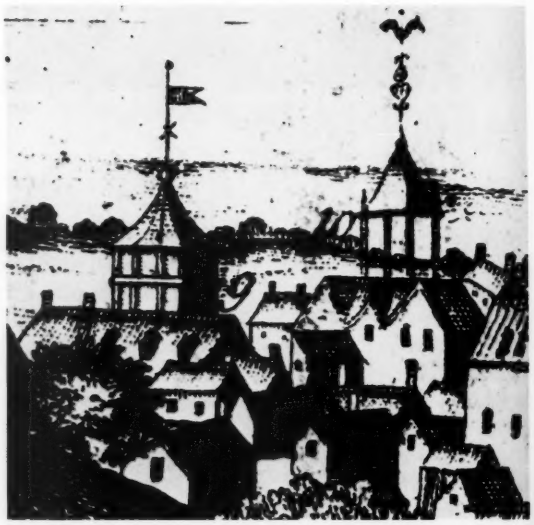


Fig. 1. South Meetinghouse (labeled no. 10), Boston (from William Burgis' view of Boston).

The latter symbol appeared also in English literature. In the chapter on Proportion in Figure in *The Arte of English Poesie*, attributed to Puttenham, 1589, we read 'Of the

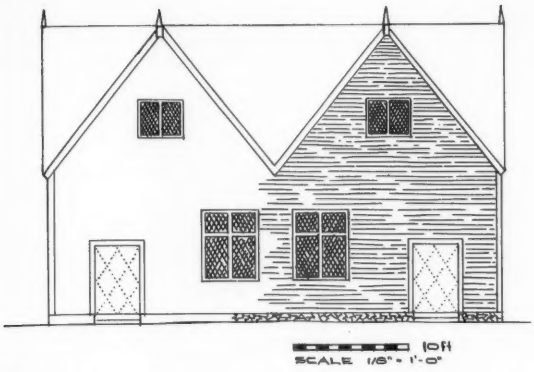


Fig. 2. Conjectural drawing, Meetinghouse, Sudbury, Massachusetts (drawn by Edwin H. Close).

Fig. 3. Moot Hall, New Buckenham, Norfolk, England (photo: author).

Spire or Taper called Pyramis. The Taper is the longest and sharpest triangle that is, and while he mounts upward he waxeth continually more slender, taking both his figure and name of the fire, whose flame, if ye marke it, is alwaies pointed, and naturally by his forme covets to clymbe'. Poems with type set in the shape of pyramids follow, one to the glory of God and the other praising Queen Elizabeth I.

The 'pyramids' of the New England town records were evidently small spires. Confirmation of this may be provided by the Burgis View of Boston, 1723, which includes the South Meeting House of 1669 (fig. 1). On the corners of the turret are little spires, which are surely pyramids, although no written mention of them has yet been found. The pyramids of the Sudbury, Massachusetts, meetinghouse of 1652, called 'pinacles' in the records, were probably set into the bargeboards, according to English practice, as suggested in figure 2. A third use might be on the peak of a hip roof, such as that of the Moot Hall at New Buckenham, Norfolk (fig. 3). The shape of the roof on the meetinghouse at Norwich, Connecticut, is not known, but if the pyramid was singled out for mending thirty years after construction, possibly it was the same important climax to a hip roof as that at New Buckenham.

To date nothing has been found in the New England documents to indicate that the pyramids carried, for the colonists, any of the symbolic values which have been mentioned, although the possibility should not be dismissed. They were more probably, like other aspects of meetinghouse construction, natural elements of the familiar English building tradition.

The Lick House, San Francisco, 1861-1862

HAROLD KIRKER

Harold Kirker of M.I.T. is the writer of the article on the Parrott Building, San Francisco, American Notes, December 1959. See also SAH *Newsletter* for February 1960, p. 3.

Russell Lynes in *The Tastemakers* (New York, 1949) has a chapter on the American hotel as something new under the sun. The Tremont House in Boston (Isaiah Rogers, architect), opening in 1829, was 'a hotel such as the world had never seen before'. Other 'Palaces for the People', as Lynes calls them, followed in quick succession. Pacemakers were the Astor House in New York (Isaiah Rogers, 1836), the Planters' Hotel in St. Louis (Henry Spence, 1837), and the Continental Hotel in Philadelphia (John McArthur, Jr., 1858). One of the high points not mentioned by Lynes was the Lick House built in San Francisco during the early years of the Civil War and described below.

We would like to have other contributions on this subject, especially those which refer to floor plans and the structural and mechanical developments which made the modern hotel possible.—Ed.

When in 1860 James Lick commissioned the pioneer architects Henry Kenitzer and David Farquharson to design a hotel for the corner of Montgomery and Sutter Streets in San Francisco he was both the state's richest resident and its finest craftsman. This combination produced not only California's first grand hotel, but a public room which by tradition was without a rival in the United States. For if James Lick had little opportunity to indulge his talent as wood carver during an enormously successful

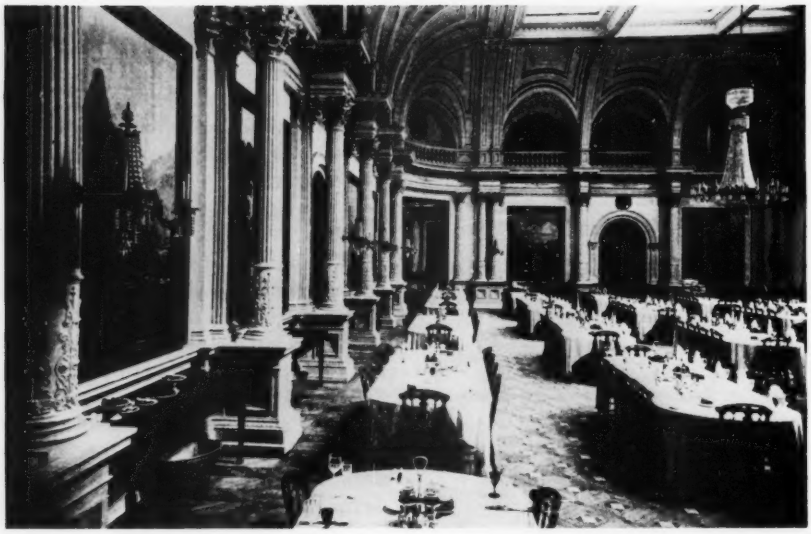


Fig. 1. Dining Room, Lick House, San Francisco (courtesy Bancroft Library, University of California).

career devoted to manufacturing and land speculations, he created in the banquet hall of the Lick House 'the handsomest dining room in the world'.[1]

A terse note in the *Alta California* of 23 January 1861 states that James Lick 'bought a million bricks yesterday'; the same paper reported the opening of 'the grandest and largest hotel on the Pacific Coast' on the first of July of the following year. The Lick House was constructed of brick with an iron front on Montgomery Street in a style described in the local press as 'Renaissance, which is a mixture of Italian, Greek, Corinthian and other orders combined'.[2] More precisely it was in the English Roman style popularized in San Francisco by the London builder George Gordon a half-dozen years earlier. As was traditional with California designers in this medium, Kenitzer and Farquharson covered the exterior walls with light-colored stucco and accentuated pilaster and arch in contrasting shades. The architects achieved a notable quality of airy lightness by the use of large windows, spacious public rooms, and wide stairways and corridors.[3]

The woodwork in the famous room (fig. 1) was largely executed by James Lick, who served a carpenter's apprenticeship on the Pennsylvania frontier in the early nineteenth century and spent seventeen years as a piano- and organ-maker in South America before coming to San Francisco in the Gold Rush. Although there is some doubt as to whether Lick designed the banquet hall, and certainly Kenitzer and Farquharson were responsible for the immense elliptical dome, it is known that he made the polished redwood picture and mirror frames, cut and laid the parquet floor, and carved much of the woodwork of the room described by a traveler in 1863 as 'finished with a degree of excellence unsurpassed by any hotel in the United States'.[4] That at least some of the carving was wrought in native laurel is attested in a letter of 1872 to a fellow craftsman in San José, in which Lick wrote that the doors were not of solid laurel as was commonly supposed but that this wood was 'judiciously and skillfully distributed in panels and borders'.[5] The two large crystal chandeliers, each carrying thirty-six gas burners, and the mirrors of French pier glass were bought in Paris. The principal decorations in the room were the twelve murals of California mountain and forest scenes painted by Thomas Hill and William Keith which, despite their highly romantic aspect, were judged authentic by visitors who saw them prior to the destruction of the Lick House in the Great Fire of 1906.[6]

Little is known of the architects other than that David Farquharson was trained in Scotland and came to San Francisco in the Gold Rush. He is first listed as an architect in the *Sacramento Directory* of 1854, the year that Henry Kenitzer arrived in California from Germany. They

1. *San Francisco Post* 3 November 1877.
2. *San Francisco Evening Bulletin* 1 July 1862.
3. *San Francisco Evening Bulletin* 1 July 1862.
4. *San Francisco Directory*, 1863; John P. Young, *San Francisco*, 2 vols. (San Francisco, 1912), I, 410–411.
5. Quoted by Howard Sonenfeld, 'James Lick in the History of California', typewritten manuscript in the Bancroft Library, University of California, 59.
6. *Daily Hotel Gazette* 14 August 1879.

seem to have entered early into that distinguished partnership which produced, in addition to the Lick House, such famous old San Francisco landmarks as the Cosmopolitan Hotel and the Bank of California.[7] James Lick never again distinguished himself as a craftsman and died in his private suite in the Lick House in 1876.

7. *Sacramento Directory*, 1864; *Architect and Engineer* XXVIII (August 1914), 115; *The Bay of San Francisco*, 2 vols. (Chicago, 1892), II, 341–342.

The Provident Trust Buildings, 1879-1897

JAMES C. MASSEY

National Park architect Massey and the rest of us have had to stand by helplessly while another great Victorian landmark came down across the street. As we go to press, the skull-crackers are still banging away at its sturdy walls.

Philadelphia is a city of colonialists. Many of its leaders feel that Victorian buildings are bad and that it is their aesthetic duty to remove them whenever possible. The Philadelphia Historical Commission refused to speak for the Provident Bank's retention. It is interesting to note that at the same time (11 February) the Commission on Chicago Architectural Landmarks awarded plaques to the owners of thirty-eight buildings in that city, none of them before 1879, hoping to encourage their preservation.

We offer the following notes in memoriam. —Ed.

Nineteenth-century architect Frank Furness' masterpiece, Philadelphia's Provident Life and Trust Company bank of 1879, 409 Chestnut Street, was demolished early this year by its new owner, the Philadelphia National Bank, to make way for a new building.

For eighty years this building was a monument to Furness' bold, masculine talent, and a subject of controversy that continued to the days of its destruction. When new, *The Evening Telegraph* commented as follows:

> Some years ago there was published in Punch a very clever cartoon representing two gentlemen walking arm-in-arm along Regent Street. One of them is rather tall and handsome, with a quiet, dignified, but withal somewhat puzzled expression; the other is small and with a waggish air of assurance presses the head of his cane against the end of his already stubby nose so as to give it a decided upward tendency, which manoeuvre attracts the observation of every passer-by. The footnote explains that little Sniffkins has taken this means of drawing away from his handsome companion some of the attention and notice which the latter usually has all to himself.
>
> With all gratitude to the Provident . . . for its boldness in stepping out of the beaten road to put up a façade so utterly different from those of its neighbors, there is yet something in this effort which, . . . irresistibly recalls that cut in Punch. Among all the structures which have been put up in that 'square' [Bank Row][1] which one has attracted one third the attention that this has, and entirely because of its eccentricity?
>
> Pretty much all the neighboring fronts have gone up quietly . . . of thorough mediocrity as to design: none of them have provoked any especial remark beyond the usual one of 'fine building'; none of their designs have ruffled the even tenor of Philadelphia thought. They have not offended the average public, nor have they puzzled the mind of the average citizen with anxiety about what would be done next . . . but with this front there seems to have been a new surprise every few mornings, and there has been a constant strain on the public mind as to what might be coming. This strain has finally

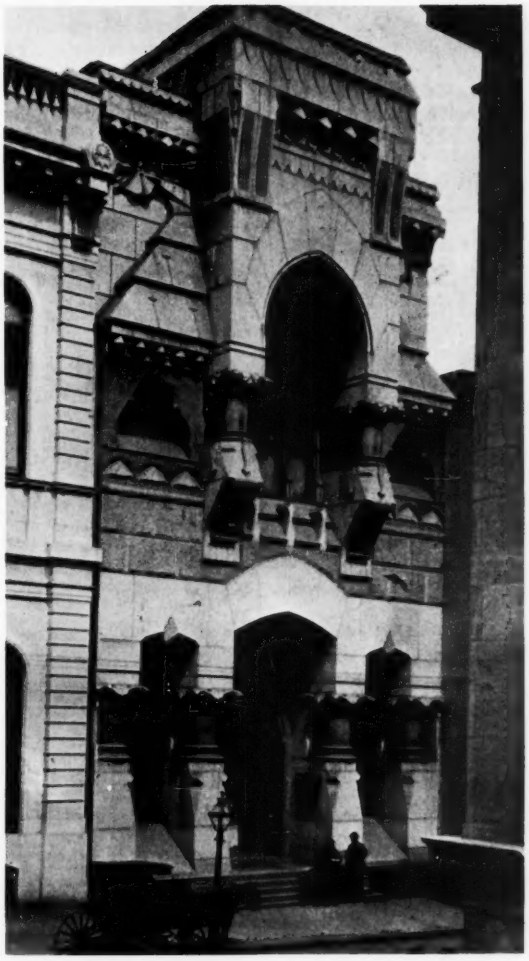


Fig. 1. Provident Life and Trust Co. Bank, 409 Chestnut St., Philadelphia (photo taken between 1879 and 1890).

1. Bank Row, of which the Provident Trust was a part, was a handsome row of six large mid-nineteenth-century banking houses on the north side of Chestnut Street between Fourth and Fifth Streets. Five of the banks survived until 1959.

been relieved by the last stones having been set in their places. Can it really be that this is a coming American nineteenth century style which we are slow of heart to recognize? . . .

Mr. Furness' strong point seems to have been to get all his decorative detail large enough for a building about double the size of the one he puts it on, so that it is very apt to have a decidedly awkward appearance. This is very noticeable in his other large buildings, and now with smaller masses, he appears to have succeeded in getting his detail larger and more out of proportion than ever. . . .

Of this design, 'which at least has the merit of being thoughtful, and in a large degree original, it must be asked, By what standard can it be judged?'

After this and other criticism, the article ends with:

If the other buildings in this block had been more carefully studied and were better in design, people would appreciate this one more fairly. . . . If this building had been the first improvement in the block, the others following it in order of erection would undoubtedly have been better for its influence. . . . Some of these days when the block is finished out to Fourth Street, in spite of the adverse criticism this building is now getting, the chances are it will be acknowledged to be quite as good, if not better than any of those west of it; in other words, let the public become acquainted with it, and they will become better judges, and perhaps learn to like it better, for it has certainly already been the best educating medium of the lot.[2]

In a more favorable view, the *Weekly Underwriter* supplement for 12 November 1887 (p. 259) calls it 'one of the handsomest and most original structures in Philadelphia. In ornamentation and general effect, the building is massive and solid, and is admirably suited to the character and purposes of the institution for which it was built.'

In modern times, although still written off as ugly by some, the building has generally become recognized as an original and forward-looking design, important in late nineteenth-century architecture.[3] Its massively scaled façade is dramatic and powerful, and was once much more so. The early photograph of the building illustrated here (fig. 1) shows that an important aspect of Furness' design was the combination of varying tones of stone in the façade which when new, created a much livelier effect than recent photographs show.

The impressive interior, illustrated in American Notes (December 1951) was faced on both walls and floor with handsome Minton tiles. 'Minton, Hollins and Company, Stoke-on-Trent' appears on the rear of specimens collected by this writer. The vast room was lighted from far above by skylights supported on iron roof trusses that were attractively decorated with gold-painted lead ornamentation rather in the manner of Louis Sullivan.

2. Account of 3 October 1878. Quoted in 'Frank Furness: An American Pioneer' by William M. Campbell and Nikolaus Pevsner in *Architectural Review* (London), vol. CX, no. 659 (November 1951), 310–315.

3. Henry Russell Hitchcock, *Architecture: Nineteenth and Twentieth Centuries* (Baltimore, 1958), p. 195, writes that the 'gigantic and forceful scale of the granite membering remains unequaled in Neo-Gothic work anywhere'.

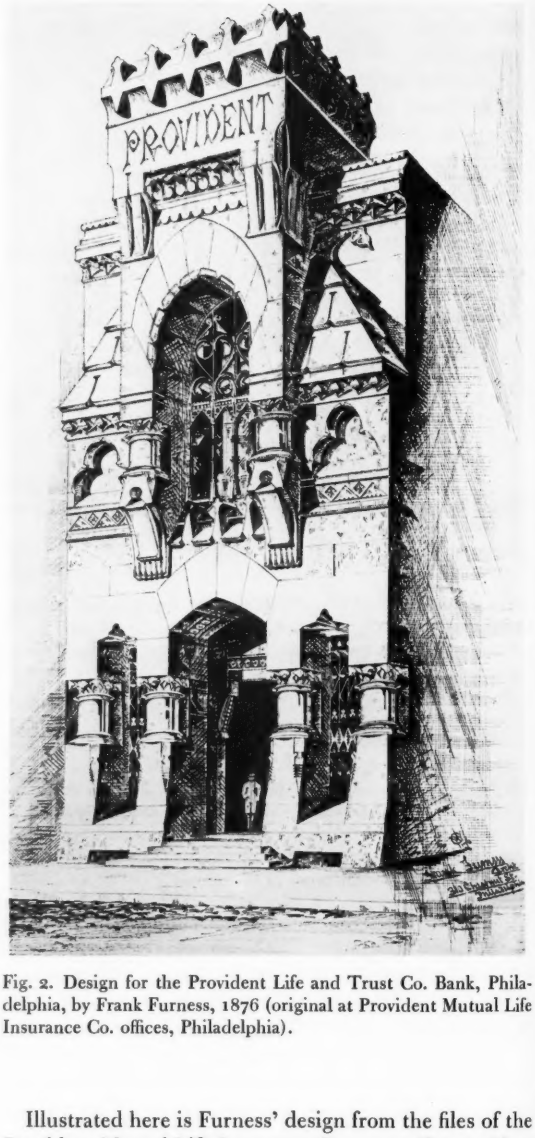


Fig. 2. Design for the Provident Life and Trust Co. Bank, Philadelphia, by Frank Furness, 1876 (original at Provident Mutual Life Insurance Co. offices, Philadelphia).

Illustrated here is Furness' design from the files of the Provident Mutual Life Insurance Company (fig. 2). Note that no pyramid was intended to cap the tower, and it was originally built this way; it was not until 1890 or 1891 that a pyramid was added to the composition.

This bank was the first of a group of buildings by Furness for the Provident Life and Trust Company at Fourth and Chestnut Streets, and was completed and occupied in March 1879. By 1887, at least, there was a wing extending east to Fourth Street for the use of the company's agents. It is not known whether this was a new building or an existing one altered for the company's use.

In 1890 the Provident erected a large ten-story office building, illustrated in American Notes (March 1952) at

the corner of Fourth and Chestnut Streets from designs of Furness, Evans and Co.[4] The new building, which adjoined the 1879 bank on Chestnut Street, repeated the design motifs of the bank façade in its lower stories, and was capped by a sort of chateau reminiscent of those designed by Richard Morris Hunt, Furness' mentor.[5] The building's floors were supported inside by huge A-frame iron trusses seven stories high that rose from the third to tenth stories, freeing the ground floor of interior columns. The floors within the 'A' were suspended from it; outside the 'A' columns were used.[6]

A ten-story addition to this office building was erected on the north in 1892, also fronting on Fourth Street. The design, though carrying out some of the details of the older structure, lacked its exuberance. Furness' firm was again the architect. The final unit came in 1895–1897, when the office building was further extended along Fourth Street by a six-story addition, filling out the length of the block to Ranstead Street. This addition ran west on that street and across the rear of the 1879 bank, thereby extending the bank through from street to street. It was probably at this time that the original bank interior was altered by the addition of balconies at the front and rear of the large banking room.

All of these buildings except the first one—the bank—were demolished in 1936 or 1937. Before the recent destruction of the original bank, however, the Historic American Buildings Survey of the National Park Service contracted with the Ohio State University to record the building by architectural photogrammetry. Under the direction of Professor Perry Borchers the building was fortunately recorded inside and out with glass-plate stereopairs that can be converted into measured drawings to provide an accurate and thorough record.

4. Allen Evans, of a well-to-do Main-line family, was now the principal partner. Other members of the firm at this time were James W. Fassett, W. Masters Camac, Louis C. Baker, Jr., and James Dallett.

5. After distinguished service in the Civil War (he received the Congressional Medal of Honor) Furness entered the atelier of Richard Morris Hunt in New York and then, in 1867, returned to Philadelphia to open his own office.

6. The Drexel Building, which stood on the southeast corner of Fifth and Chestnut, was an earlier building using the A-frame principle. It was designed by Wilson Brothers and Company in 1882 and built in 1888 using A-frames four stories high in one wing and five stories high in another. Does anyone know of an earlier use of this type of framing?

John Notman's Mansard, 1848

Some great houses with 'hip on hip' or 'mansard' roofs were known in America of the 1700s but a real vogue did not develop until after the Civil War. In the matter of priorities the following query from Francis James Dallett of the Athenaeum of Philadelphia is pertinent.

An extended article by Mr. Dallett, 'John Notman, Architect', appears in the *Princeton University Library Chronicle* XX, no. 3 (1959), 127–139. —Ed.

Medary, the 'cottage' designed by Philadelphia architect John Notman for Harry Ingersoll at what is now the corner of Seventh Street and 64th Avenue, on the northern outskirts of Philadelphia, was completed in October 1848 (fig. 1). Demolished in the 1930s, its design is known from a collection of photographs owned by Mrs. George O. Lummis of Philadelphia, a later owner.

The fieldstone, traditional structure introduced some contemporary Italianate details: colonnade, belvedere, classical chimney pots and bracketing, all dear to the architect. Of chief interest is its roof design, a gentle mansard. Can readers tell me whether this was the first nineteenth-century mansard in the country?

Fig. 1. Medary, residence of Harry Ingersoll, 1847–1848, by John Notman.

HABS NEWS

CHARLES E. PETERSON

Architecture of Chester County, Pennsylvania

When the Historic American Buildings Survey was reactivated in 1957, it was very apparent that to spend the new funds widely and well, some changes of emphasis would be necessary. The depression of the 1930s was happily far behind, the building business was booming, and architectural draftsmen were in short supply. On the other hand, photography was plentiful. Furthermore, the interest in early American structures had greatly increased, and there were more able architectural historians. In other words, more local knowledge than ever would probably be available. To pursue the Survey without taking full advantage of this was unthinkable. And so the photo-data-book, always an important part of the Survey, was given increased emphasis, and co-operation with local historical agencies was promoted—with success, we are glad to report.

To attain time and cost figures for estimating purposes, it was decided to make a special study of one county as a geographical unit. Chester County, Pennsylvania, was chosen because it has a rich collection of old buildings almost completely neglected in the 1930s' campaign, because it had knowledgeable and co-operative people in its very active historical society, and because it was close enough to our Philadelphia office to hold joint conferences as work progressed.

The Chester County Historical Society agreed to canvass the entire county (a large one) and to select one hundred buildings of particular interest. Architectural merit, historical associations, and variety of dates and types were to be considered. Because the interest of the Society's members is mostly in the earlier periods, the list was deliberately weighted in favor of the earlier years. The Society agreed to guide the photographer and to produce detailed writings on each structure—both as to observable characteristics and as to documentary history.

A photographic contract was awarded to Ned and Lila Goode—West Chester professionals—on a competitive basis. Intensive field work began at once and is still under way. The quality of the photographs is outstanding. The write-ups prepared by Curator Bart Anderson, assisted by James Sorber and others, are among the very best received since the Survey began twenty-six years ago.

A few of the photographs made for this project were first shown in the form of salon prints at a Winterthur Museum seminar in May 1959. A much larger showing was offered in February 1960 at the Student Center, University of Delaware, Newark. This was arranged by Professor Alan Gowans, who also issued a mimeographed booklet for the occasion. As we go to press a third and enlarged showing is planned for Swarthmore College in May 1960 under the direction of Professor Robert M. Walker. When the entire collection is assembled, it is planned to mount a circulating show and to publish a book.

Fig. 1. A. Bolmar's Boarding School for Boys (originally West Chester Young Ladies' Seminary; now Villa Maria Convent), 300 Maple Avenue, West Chester, Pa., built in 1838 by Thomas U. Walter (oil painting, *c.* 1850, artist unknown).

Subject to the limitation of its annual appropriations, the National Park Service will consider proposals for other co-operative projects of this type.

We are glad to reproduce here some samples of the photographs, which include not only new views but photo copies of old ones.

Fig. 2. Corner fireplace, south room, first floor, 'Plumsock', Willistown Township, Chester County, Pa. (photo: Ned Goode).

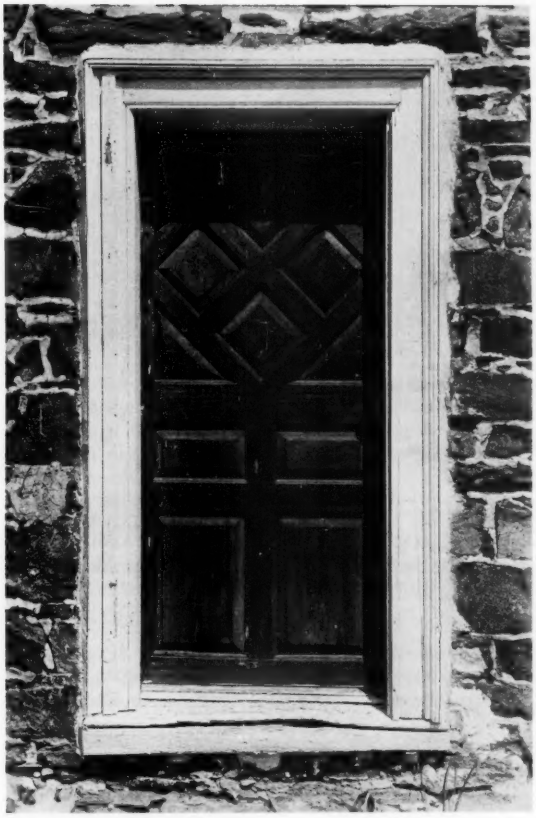


Fig. 3. Cross Keys Tavern (Chrome Hotel), south front, center door, East Nottingham Township, Chester County, Pa., built before 1750 (photo: Ned Goode).

Fig. 4. Chester County Courthouse, West Chester, Pa., by Thomas U. Walter, 1846 (photo: Ned Goode).

Danish Expedition to the Virgin Islands

As we go to press, a party of four faculty members of the School of Architecture, Royal Academy of Fine Arts, Copenhagen, is expected in Philadelphia to plan an historical-architectural survey of the Virgin Islands. The party will consist of Messrs. Peter Bredsdorff, H. H. Engqvist, Bo Jein, and Kjeld de Fine Licht. They will proceed from Philadelphia to the Islands for a one-month preliminary study. At Christiansted they will be guests of the governor of the Virgin Islands at the eighteenth-century Government House. The main body of the expedition—probably about thirty persons—is expected in the Islands next winter.

A gift of $15,000 by Laurance Rockefeller through the Jackson Hole Preserve, Inc., made this project possible. The funds will be disbursed by the National Park Service

Fig. 5. Typical upper-class residence, Christiansted, Virgin Islands (photo: Jack Boucher).

Fig. 6. West entrance, Danish Government House, Christiansted, Virgin Islands (photo: Jack Boucher).

and the work co-ordinated with HABS. Frederick C. Gjessing, resident architect in the Virgin Islands, and your editor will handle the professional problems at the American end.

In the period 1666–1917 the Danes developed a sugar colony on the islands of St. Thomas, St. John, and St. Croix comparable on a small scale to those exploited throughout the West Indies by the Spanish, French, English, and Dutch. The architectural remains in the Virgins —especially St. Croix—are very rich. See American Notes, *JSAH* XIV, no. 1 (March 1955), 28–29.

In a statement issued in February 1958 Professor Mogens Koch describes the Academy policy as follows:

> There is rich tradition for the study of architecture of the past through measured drawings at the School of Architecture of the Danish Royal Academy of Fine Arts. The study of older architecture accompanies the main course, Architectural Design, throughout the school, as we feel that these studies open a valuable area of experience to the future architect. For the past ten years, the entire fourth-year class (80 students) has taken a study trip for the purpose of measuring and sketching places of special architectural interest. Immediately after the Second World War the trips went to towns in Denmark but, as possibilities opened for travel abroad, we succeeded in expanding our study area, first to Sweden and Holland and later to Italy and Greece. These trips have been organized and led by the Academy's professors and teachers who have also conducted preparatory studies at the school during the preceding winter. The trips have been partially financed by grants from the Ministry of Education and from various private funds.

Eastern Summer Program, 1960

The employment of personnel from the professional schools of architecture—both faculty and students—during the summer recess of the academic year takes up a substantial part of the HABS budget. It has been possible to prepare a large quantity of measured drawings in this way and the quality of draftsmanship is generally very good to excellent.

For the summer of 1960 we plan a team at Rockport, Maine, under the sponsorship of Ambrose C. Cramer, A.I.A., one at Milwaukee, Wisconsin, under Richard W. E. Perrin, A.I.A., and two on Cape Cod, probably with headquarters in the Nauset Lifeboat Station, Eastham. The latter will be recording structures in the area of the proposed Cape Cod Seashore Park. Separate units will also be organized for the Washington and San Francisco offices. In addition, there will probably be a number of positions for the preparation of restoration working drawings for Philadelphia buildings.

Because of the large proportion of personnel returning from former years, the opportunity for new recruits is now very limited.

BOOKS

Theodore Bowie (ed.), *The Sketchbook of Villard de Honnecourt* (Bloomington: Indiana University, 1959), 14 pp., 63 pls. $2.00. Distributed by George Wittenborn, Inc., New York.

It is gratifying indeed to have available for the first time an inexpensive edition of the thirteenth-century manuscript of Villard de Honnecourt (Paris, *Bibliothèque nationale, ms. fr. 19,093*), the sole surviving book on architecture between Vitruvius' *De Architectura* and Alberti's *De re aedificatoria*. Earlier editions of the Villard manuscript are, as its latest editor notes, bibliographical rarities. And as pointed out in an earlier review of Bowie's edition (Robert Branner, *College Art Journal*, XVIII, Summer 1959, 375), the only facsimile edition in English (that by Robert Willis in 1859) is 'sadly out of date'. Thus the importance of having a new, readily accessible and, considering its low price, high-quality edition of the Villard manuscript is evident.

Bowie says in his interesting and informative introduction that 'this simple edition, neither critical nor scholarly, of Villard's drawings, is intended for the nonspecialist'. This permits the omission of a detailed discussion of the more complex problems the manuscript poses, such as dating and interpreting the drawings and inscriptions. For anyone wishing to go seriously into the subject, Bowie includes a bibliography of earlier facsimile and critical editions and some of the more recent articles concerning the manuscript. Yet, because Bowie does intend his edition for the nonspecialist who may not have available or wish to use the earlier, more detailed, and critical editions, he might at least have mentioned some of the problems the nonspecialist is unlikely to be aware of.

Chief among these is a differentiation between the hands in the inscriptions accompanying the drawings, as first clarified by Hans Hahnloser. Presumably Villard himself wrote most of the inscriptions in the Picard dialect (e.g., Bowie, pl. 39); Master 2 all those in Latin (e.g., Bowie, pl. 17A) and those in Picard beginning 'par chu fait om . . .', etc. (e.g., Bowie, pl. 55); and Master 3 those in French (e.g., Bowie, pl. 17B). Bowie points out that 'there is no doubt that several hands other than Villard's have contributed some drawings (with appropriate captions), particularly in the section devoted to the application of practical geometry to problems of masonry and carpentry'. But this is scarcely explicit. The drawings and inscriptions on Bowie plate 55 and the upper half of Bowie plate 56 are by Master 2, and the inscriptions on the lower half of Bowie plate 56 are additions to Villard's drawings by Master 2, as is the case in Bowie plates 57 and 58. In the introduction Bowie comments on still later additions to the drawings (e.g., Bowie, pl. 20B).

The novel arrangement of the plates according to subject matter (inasmuch as this was possible) is, as Bowie admits, a 'major liberty'. It vastly complicates comparison of the plates in his edition with the present order of the manuscript as followed in earlier editions, a situation that could have been avoided simply by giving a concordant number to each plate rather than including a table of concordance at the back of the book. But in all fairness it must be said that the traditional order is only arbitrary since we do not know exactly how the manuscript was originally arranged. Bowie's arrangement of the plates facilitates comparison of like materials, and this is how the book will be most used. Yet it would be more serviceable still if, as Branner mentions, 'the modern identifying letters (called "Arabic" on p. 7)' had been typeset and not written in by hand, as they are easily confused with the original lettering by the inattentive eye. A useful addition by Bowie would have been Jules Quicherat's nine categories of subject matter in the drawings. He found them to be concerned with (a) mechanical devices, (b) practical geometry or trigonometry, (c) stonecutting or masonry, (d) carpentry, (e) architectural design, (f) ornamental design, (g) (human) figure design, (h) furniture design, and (i) subjects outside the specialized knowledge of the architect or designer.

The inscriptions, called captions by Bowie, have been newly translated into English and are clear, concise, and readable, being accompanied where absolutely necessary by brief explanations. Only one serious mistake was made in translation. The inscription under the plan of Cambrai Cathedral (Bowie, pl. 41C) says, 'here is the plan of the chevet of Our Lady (*medeme sainte Marie*) of Cambrai as it rises from the ground. Earlier in this book you will find the inner and outer elevations, as well as every arrangement of the chapels and walls, and the form of the flying buttresses'. Bowie renders *avant* as 'farther on' instead of 'before'. Since there are no additional drawings of Cambrai in the manuscript as it exists today, this is important to any reconstitution of its original contents or arrangement.

Finally, Bowie, like his predecessors, faced the problem of what to call the manuscript. Was it the sketchbook or album of a wandering man associated in some indeterminable degree with the arts? Was it an *aide-mémoire* for a man connected in some way with the art of building? Or was it a *Bauhüttenbuch*, a shop manual, as Hahnloser contends? Perhaps it was all three. It is possible that when Villard made his first drawings he was using the manuscript as a sketchbook and inserting those things seen on his travels that interested or amused him, such as the lion (Bowie, pls. 31 and 32) drawn not from life but from a corbel at Chartres, as Peter Kidson has recently shown. And it is equally possible that when he was invited to go to Hungary he made some of the architectural sketches to serve as *aides-mémoire* during his stay there; for instance, the window from Reims (Bowie, pl. 42B), of which he later wrote, 'I have been invited to go to Hungary when I drew this, which is why I liked it all the more'. When he returned to France and decided to leave the manuscript to posterity, he may have added many of the inscriptions to the figures (see Bowie, pl. 2). There is no question but that most of these were put in after the drawings were made. Note, for example, how the lettering goes around the figures on Bowie plate 28. Some of the inscriptions added by Villard constituted advice to young masons, as when he says, 'Remember that if you wish to build great buttress towers, they must project sufficiently. Take pains with your work and you will act prudently (*sages*) and wise (*cortois*)'. These indicate that the manuscript was intended by Villard to be a shop guide of sorts. Once it got into the hands of Master 2, he made it a true shop manual with the additions of the figures concerning geometry and masonry (Bowie, pls. 55 and 56). Thus the manuscript seems to have been different things at different times—a sketchbook or album, an *aide-mémoire*, and a shop manual.

CARL F. BARNES, JR.
Columbia University

Marion Elizabeth Blake, *Roman Construction in Italy from Tiberius through the Flavians* (Washington: The Carnegie Institution of Washington, 1959), xvii+195 pp., 6 figs., 31 pls. Paper, $8.25, cloth, $9.00. Carnegie Publication 616.

'Is it too much to hope,' asked Thomas Ashby in the preface to his 1927 edition of *The Architecture of Ancient Rome*, 'that Roman architecture may at length be emancipated from Canina?' He suggested that Canina's often fanciful reconstructions might be corrected through the combined efforts of the students at the several national academies in Rome. But relatively few of the architects who have held a *prix de Rome* since Ashby's time have been interested in closely examining and measuring ruins, and not many of the architectural historians have been trained to do so; as a result the factual knowledge of Roman architecture has remained chiefly in the hands of the archaeologists. Ashby was an archaeologist and one of the great students of Roman architecture, and it is to him and his kindred that one usually turns for trustworthy publications of Roman buildings.

One of Ashby's contemporaries, Dr. Esther Van Deman, studied the ancient buildings of Italy with a view to establishing their chronology by comparing techniques of construction, and these studies became the basis of the work of Professor Blake. For many years now she has been interpreting Dr. Van Deman's notes and expanding from them. The first result of this work was her *Ancient Roman Construction in Italy from the Prehistoric Period to Augustus* (Washington: The Carnegie Institution, 1947), which was reviewed in *JSAH* VII (1948). In that volume the history of the use of materials in Roman architecture was carried up to the moment when a veritable revolution took place in the architecture of the ancient world, that revolution in the conception and construction of space and the use of materials that began in the first century A.D. The present book, the second in a projected group of three, examines in chronological sequence the materials and some of the methods of construction used in and near the capital between A.D. 14 and 96. Both the time and place are of critical importance to the history of architecture, for during this period the vaulted style, if not invented, was developed and given identity by the Romans. This is the time when the classical system of verticals and horizontals began to give way to arches and vaults, and when preparation was made for such triumphs of space, visual effect, and construction as Trajan's Market Hall, the Pantheon, and the imperial baths. Most of the characteristics of the curved, plastic architecture of the Roman empire were developed during this time, and because of the historical significance of that architecture the period is one which the historian may wish to command. Miss Blake's books are essential to such a purpose, and she has helped to emancipate us from Canina's handsome but inaccurate engravings.

In her introduction the author reviews the types of evidence available and reminds us that the building methods used in central Italy were rarely translated unmodified to the provinces. Then in two extensive divisions, which make up nine-tenths of the text, the Julio-Claudian (A.D. 14–68) and Flavian (A.D. 69–96) periods are dealt with. Buildings in Rome, Ostia, and Italy outside of Rome are dealt with in rich detail and with full references to the texts and to secondary works. Both public and private buildings are examined, engineering and hydraulic works are discussed, and a section is devoted to the region around Vesuvius. The result is a precise, factual account of the nature of the fabric of early imperial buildings at or near the center of government.

Because it gives a clear view of the remains we have to work with, the book belongs among the quite limited number of studies which make really useful contributions to the understanding of Roman architecture. Almost every sentence deals with the material realities behind the creation of spaces, visual effects, and the imponderables of architecture, and we are given a view in depth of the physical conditions that are a part of the art of Roman architecture.

Because of its chronological and relatively compact treatment of the subject, the book will be of greater service to most historians than the relevant parts of a monumental study recently presented by Giuseppe Lugli, *La tecnica edilizia romana*, 2 vols. (Rome, 1958); for a summary see the *Journal of Roman Studies* XLIX (1959), 181–183. The usefulness of the present volume is, however, increased if one first digests the material given in the first volume of Miss Blake's series, for there detailed information is given about the nature of the stone, brick, mortar, and concrete used by the Romans. Her desire to discuss Roman construction and the conditions that brought it forth is amply fulfilled as far as materials are concerned, but if construction is taken to include engineering and the processes used in erecting buildings, then the scheme has not so far been completely carried through. Few of us are prepared to expound these subjects, but since in Roman buildings tons of masonry were often suspended in the air it would be helpful to know, in general terms, more about how this was accomplished. Perhaps a discussion of these problems will appear in the third volume. It would be very useful to have a bibliography of the subject and a discussion of the state of its chief questions from a scholar who knows the buildings and the literature so very well.

The book has been carefully produced. The plates carry 109 cuts made from photographs; almost all are of good quality. I find the indices unnecessarily complicated, perhaps a surprising comment when good books often cry out for fuller indexing. But there are five indices listed, and two more unlisted ones appear on pp. 177–178. Would not a single-alphabet index serve the same purpose and be easier to use? Of relevant and useful studies only F. C. Bourne's *The Public Works of the Julio-Claudians and Flavians* (Princeton, 1946) seems to be missing from the bibliography.

WILLIAM MACDONALD
Yale University

Jürgen Joedicke, *A History of Modern Architecture*, tr. from the German by James C. Palmes (New York: Frederick A. Praeger, 1959), 243 pp., 465 illus. $10.00.

Ian McCallum, *Architecture USA* (New York: Reinhold Pub. Corp., 1959), 216 pp., illus. $13.50.

Those among us who are teachers of some phase of modern architecture will find these volumes especially valuable as introductory surveys. Both are well illustrated. Both are comprehensive in scope, compact in treatment, and neutral in point of view, although Joedicke's position as a teacher at the Technische Hochschule in Stuttgart tends slightly to emphasize German developments.

Joedicke's volume provides the best short account of the history of modern architecture now available. As an introductory handbook for students, it suffers, however, because of its price and its somewhat confusing arrangement, which is partly chronological, partly topical, and partly by architect. The book appears in four sections. The first, which Joedicke terms The Age of the Pioneers, covers developments through World War I with a chapter on the entire career of Frank Lloyd Wright (up to Johnson Wax at any rate) in the middle. The second, arbitrarily headed Masters of Modern Architecture, devotes separate chapters to Gropius, Mies, and Le Corbusier, again

carrying each through the bulk of his career. It is the third section, entitled Extension and Development, where the organization becomes confused.

It opens with a retreat to De Stijl which, above all other movements to Joedicke, most completely accentuates formal elements at the expense of structural, economic, social, and human requirements. By thus severing De Stijl from Mies and other universalizing movements of the early twenties Joedicke considerably muddies his analysis. The confusion is confounded by subsequent comparisons of early works of the twenties with work after 1925 exhibiting a 'mellowing and refinement of form' beyond the formalism of De Stijl. In these comparisons, De Stijl is ignored except in diluted Gropius (and near-Gropius) versions. But the comparisons themselves are well done, while the recognition of a drift in European modernism by the late twenties away from the belligerent purity of its beginnings is among the most commendable aspects of Joedicke's survey. This more comprehensive version of the International Style inevitably calls forth Aalto as the last of the 'modern masters' to whom Joedicke gives a full chapter. Whereupon Joedicke's disjunctive organization provides a chapter on the evolution of skeletal frame construction and another on curvilinear constructions by way of terminating his grab bag of Extension and Development. Finally, section four brings more disruption by a series of brief national surveys of modern architecture in Europe, Brazil, and the United States. Even the specialist, while discovering nothing new in this capsule sweep of the geography of modern architecture, will find it a convenient reference.

This brings us to McCallum. As a hard-cover variant of the remarkable 'Machine Made America' issue of the *Architectural Review* for May 1957, by its erstwhile executive editor who now heads an English museum devoted to Americana, *Architecture USA* is primarily designed to permit Englishmen to catch up on our professional periodicals. Regular subscribers will not be startled; but the compendium provides a handy reference and, again, teachers will find it indispensable for reserve shelves.

Opening with a historical background from Richardson to the present which is a model epitome, McCallum thereafter provides a section for each of thirty-three architects arranged chronologically according to their dates of birth. Beginning with Louis Sullivan, who was born in 1856 (the only deceased architect at the time of publication), the volume closes with Thornton Ladd, who was born in 1924. Each architect is honored with a photograph and a short biography together with brief remarks on his philosophy of design, followed by a sheaf of captioned photographs, plans, and sections. Inevitably there will be complaints about the selection—not so much perhaps at those included as that others were ignored. In a 'note to American readers', a representative of the American publisher lists some suggestions for inclusion, although, at most, I would not add more than half a dozen of this list to McCallum's selection. This same representative, moreover, feels that too much weight is given to Mies and to Yale. But the Miesian aesthetic dominated the American scene when McCallum published, while Harvard is quite as pervasive as Yale, and perhaps more so. My own major stricture against the book—and a serious deficit as time makes it less of a quick peek at 'only yesterday' and more of a historical reference—is lack of dates for any of the buildings.

As an historical aid for the specialist, a conspectus of this sort is especially interesting for the impressionistic view which its pages afford. It freezes a complex development at a particular point in time and encourages the scholar to check his surmises as to trends against an arbitrary cross section. McCallum's cross section just happens to have been conveniently cut. Here we see tendencies begun in the late thirties coming to fruition and dying out. We see the flood tide of Mies and just enough of the individualistic reaction against Miesian universality to sense currents running toward the future. What are the specifically American contributions in this architecture? What were the dominant directions in American architecture from the late thirties to the end of the fifties? What are the underlying configurations of form and attitude which set American architecture apart from European during this period? A more ambitious reviewer would attempt some answers.

WILLIAM H. JORDY
Brown University

P. H. Scholfield, *The Theory of Proportion in Architecture* (New York: Cambridge University Press, 1958), 155 pp. $5.50.

Anyone who attempts to treat systems of proportion at this moment in the twentieth century is more to be congratulated for his courage than for his discretion. Scholfield states that in some circles his subject is considered a 'bit of a bore', yet with commendable British doggedness he carries on. The title of the work indicates the difficult task the author has set himself. His subject is, first of all, the theory of proportions and, secondly, the applicability of theory to architecture. Although the various systems of proportion advocated in the past are considered historically, it is Scholfield's thesis that these systems differ only superficially and that they can all be subsumed in an all-encompassing theory. The relative merits of developing this thesis within an historical framework are debatable, yet considered point by point this work has so much to recommend it that one may wish to overlook differences of opinion in method.

Among the obvious merits of this work one cannot praise too highly the introductory chapter, which is a model of its kind both for its identification of the basic elements of the problem and for its clarity of exposition. Of equal importance, but quite different in direction and scope, is the appendix which is at once a résumé of the systems of proportion discussed in the body of the work and a clarification of Scholfield's thesis. Here we find not only the historically more common whole-number relationships but a succinct and provocative discussion of the properties of the $\theta(\sqrt{2})$ and $\phi(\sqrt{5}$ or 'golden section') series. Even though the reader may already be acquainted with these proportions and with the Pell series (in which a number is doubled and added to the preceding number to produce the next number, e.g., 1, 2, 5, 12, etc.), and the Fibonacci series (in which successive pairs of numbers are added to form the next number, e.g., 1, 2, 3, 5, etc.), he can find no fault, for the sources are freely acknowledged and in most cases made more readable.

On the opposite side of the ledger we must enter the author's preoccupation with numbers per se. He is quite aware, as we all are, that the manipulation of numbers exerts such a fascination that it can soon be an end in itself totally divorced from reality. He avoids this pitfall by exerting admirable restraint until he encounters the incommensurable proportions of Hambidge's dynamic symmetry and Le Corbusier's modular. At this point the attraction becomes too great. The author is perhaps saved in the earlier chapters by his greater understanding of late nineteenth- and twentieth-century systems of proportions. In fact, the chapters on the Middle Ages and Renaissance do not exhibit the same firsthand grasp of the subject as do the later chapters, perhaps because of a reliance on secondary material. Finally, it seems to me, the author has missed an excellent

opportunity to do for architecture what Panofsky proposed to do for painting and sculpture in his 'Die Entwicklung der Proportionslehre als Abbild der Stilentwicklung', *Monatshefte für Kunstwissenschaft*, vol. 14 (1921–1922), 188–219. Like Panofsky, the author notes the rise and fall of an interest in a mathematically determined system of proportions, the appearance and disappearance of the commensurable and incommensurable, yet he does not attempt to explain the cause of these systems falling in and out of favor with the notable exception of the fine discussion of Alberti's musical proportions. It is to be hoped that in future studies Scholfield will attempt to penetrate this important aspect of his subject more deeply.

To balance the ledger one must regretfully state that Scholfield, like the philosopher in Virginia Woolf's *To the Lighthouse*, did not quite get to 'it', for he just misses making a truly great contribution. That he got so far is especially admirable in an M.A. thesis turned book, yet an apparent imbalance between historical and mathematical knowledge postponed that final step. This is, however, a good book, well above average and especially to be commended for its clarity and good sense. It is of especial importance to the practicing architect, the architectural historian, and the theorist at the present time, for it summarizes the past and places us squarely in the midst of the problems of the moment. Whether one is violently anti-proportion, violently partisan, or noncommitally in between, this is a book that cannot be ignored. It is to be read, digested, and shelved for future reference, for it will be used again.

JOHN R. SPENCER
University of Florida

Books Received

(Mention of a book here does not preclude its subsequent review.)

Carl W. Condit, *American Building Art—The Nineteenth Century* (New York: Oxford University Press, 1960), 371 pp., 137 figs. $12.50.

K. A. C. Creswell, *A Short Account of Early Muslem Architecture* (Baltimore: Penguin Books Inc., 1958), 330 pp., 72 pls., 64 figs. $1.95.

Mildred H. Cummings, *South Solon: The Story of A Meeting House* (New York: Marchbanks Press for South Solon, Maine, Historical Society, 1959), 80 pp., illus. $2.00.

A brief history of the building and restoration of the Congregational Church in South Solon, Maine. In 1952 the interior was decorated with frescoes by young American artists.

S. G. Gillam, *The Building Accounts of the Radcliffe Camera* (Oxford: The Clarendon Press for the Oxford Historical Society, 1958), 189 pp., 62 pls. £2/2. Oxford Historical Society Publications, Second Series 1953–1954.

New York Landmarks, An Index of Architecturally Notable Structures in New York (New York: Municipal Art Society, fourth edition, 1960), 34 pp.

M. D. Ozinga, *De Monumenten van Curacao in Woord en Beeld* ('s Gravenhage, The Netherlands: Staatsdrukkerij, 1959), xix+278 pp., 295 pls., 86 figs. 50 fl.

Renate Wagner-Rieger, *Die Italienische Baukunst zu Beginn der Gotik, II Teil: Süd- und Mittel-Italien* (Wien: Hermann Böhlaus Nachf., 1957), 272 pp., 38 pls., 31 figs. DM 24.80.

Giangiorgio Zorzi, *I Disegni delle Antichità di Andrea Palladio* (Venezia: Neri Pozza Editore, 1959), 202 pp., 325 pls. $45.00. Distributed in America by George Wittenborn Inc.

Periodicals Received

Architectural History, The Journal of the Society of Architectural Historians of Great Britain, The Institute of Advanced Architectural Studies, Micklegate, York. Vol. I, 1958; Vol. II, 1959.

The first two volumes of *JSAH*'s British counterpart emphasize the importance of rediscovered documents and the significance of drawings. Restricted to English subjects except for R. A. Cordingley's review article of Lawrence's *Greek Architecture*, the works range in date from the thirteenth century, namely Bruce Allsopp's 'A Note on the Arcading and Sculpture in the South Aisle of Beverley Minster', to a letter of about 1930 from W. R. Lethaby to Arthur Llewellyn Smith.

Nearly half of the studies are primarily concerned with the significance of newly found documents. These include Howard Colvin's two articles on a lawyer's brief and the light it sheds on an architectural problem, 'The Architects of Stafford House'; and one on four building documents relating to Westminster Palace, 'Four Fourteenth-century Building Contracts'. The correspondence between Philip Webb and his client Col. Godman is discussed by J. Brandon-Jones in 'Notes on the Building of Smeaton Manor', and Henry Parris writes on the importance of British Transport Historical Records to the architectural historian.

Drawings form the basis for John Harris' article on Inigo Jones' drawings at Worcester College and the R.I.B.A. and their relation to the Prince's Lodging at Newmarket, and for Sir John Summerson's catalogue of the drawings for Newgate Gaol now in Sir John Soane's Museum.

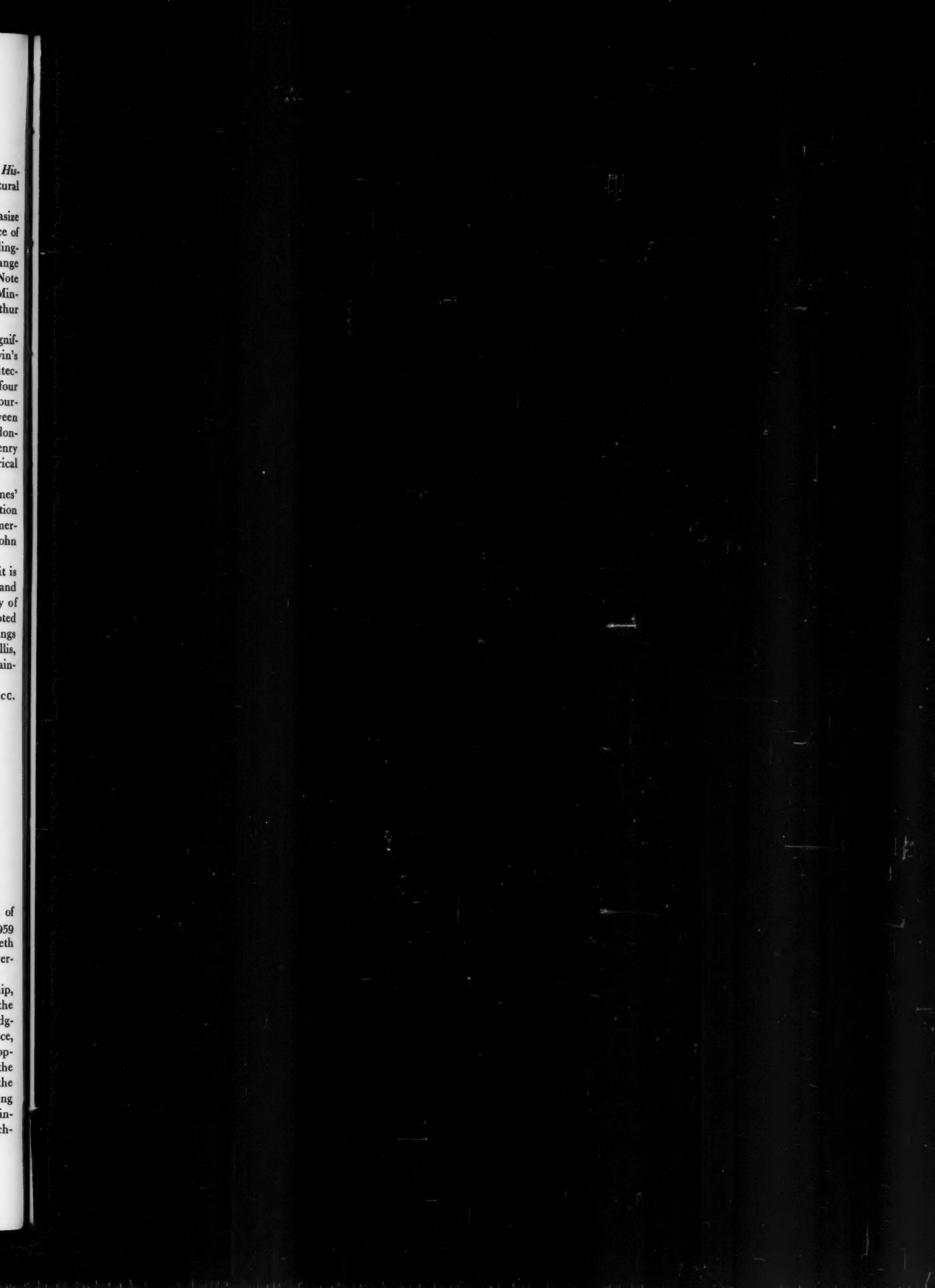
Two of the most valuable features of these volumes, which it is hoped will be continued, are a listing of unpublished theses and works in progress in British institutions relating to the history of architecture, and the valuable supplement to each volume devoted to a compilation of data, photographs, and newly executed drawings of individual buildings. Oriel Chambers, Liverpool (Peter Ellis, 1864) and the Royal Arcade, Newcastle upon Tyne (Richard Grainger, 1831–1832) are the first two.

T.J.McC.

Journal of the Royal Society of Arts, London.
No. 5042, Jan. 1960.
No. 5043, Feb. 1960.
No. 5044, Mar. 1960.

BOOK AWARD

The Alice Davis Hitchcock Medal

for the most distinguished work of scholarship in the history of architecture published by an American scholar during the year 1959 was presented by the Society of Architectural Historians to Kenneth John Conant, Professor of Architecture, Emeritus, Harvard University, for *Carolingian and Romanesque Architecture, 800 to 1200*.

The citation reads as follows: In this work of brilliant scholarship, adorned with many of his lucid restorations, the author presents the complex picture of early Mediaeval architecture. His balanced judgment and vast erudition have produced a book of major importance, giving clarity and order to this often obscure phase in the development of Western architecture. The reader shares with delight the author's enthusiasm for his subject and follows with admiration the exciting spatial adventures of these four centuries of expanding spiritual fervor. Years of devoted study and an unrivalled acquaintance with the monuments themselves gives a cachet of irreproachable authority to this work of scholarship.